Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Vilo Mesh Wi-Fi System
Trade Mark: N/A
Test Model: VLWF01

Environmental Conditions

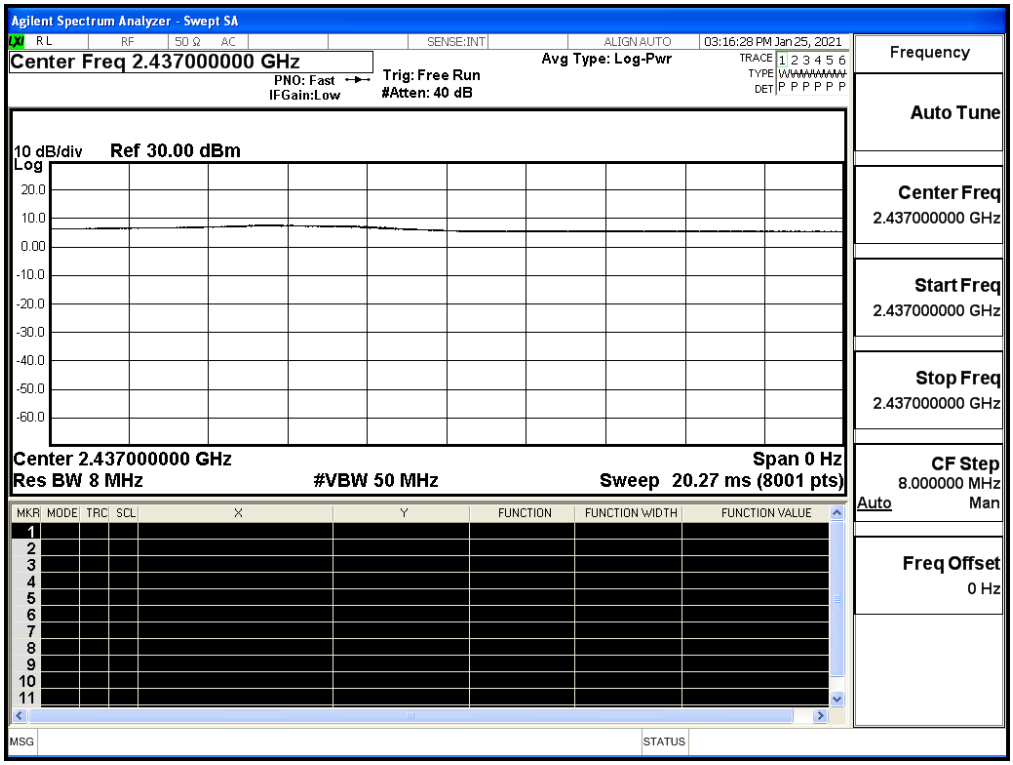
Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ben Jin
Supervised by:	Li Huan

A.1 Duty Cycle

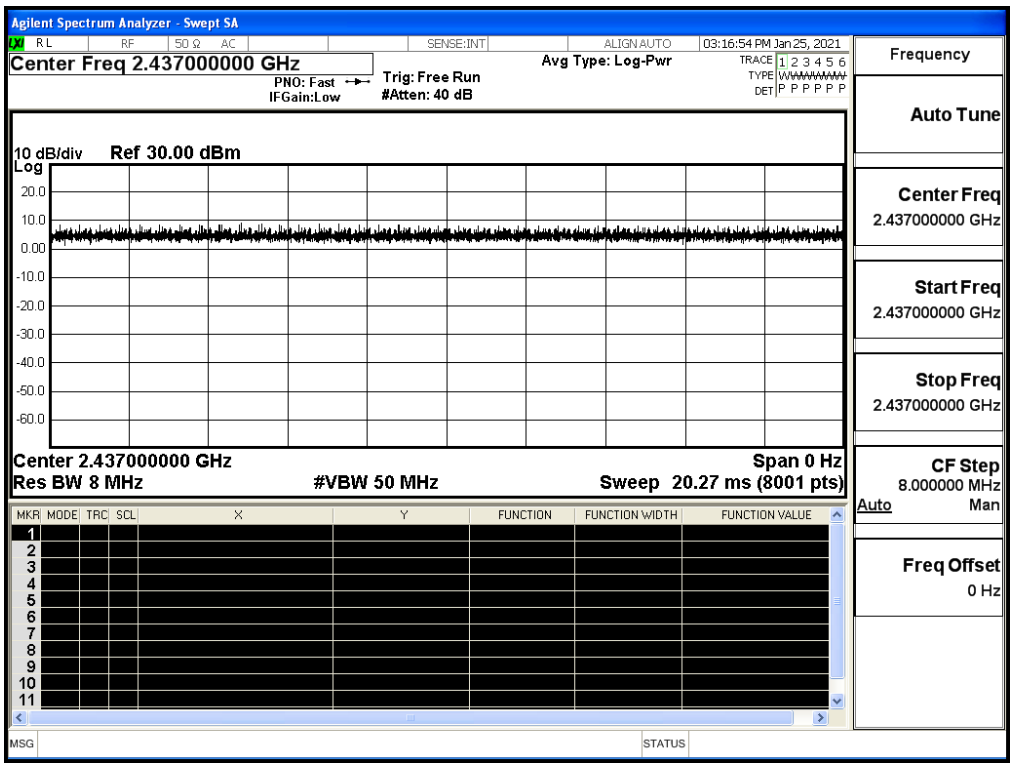
ANT0

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant0	100	PASS
11G	2437	Ant0	100	PASS
11N20SISO	2437	Ant0	100	PASS
11N40SISO	2437	Ant0	100	PASS

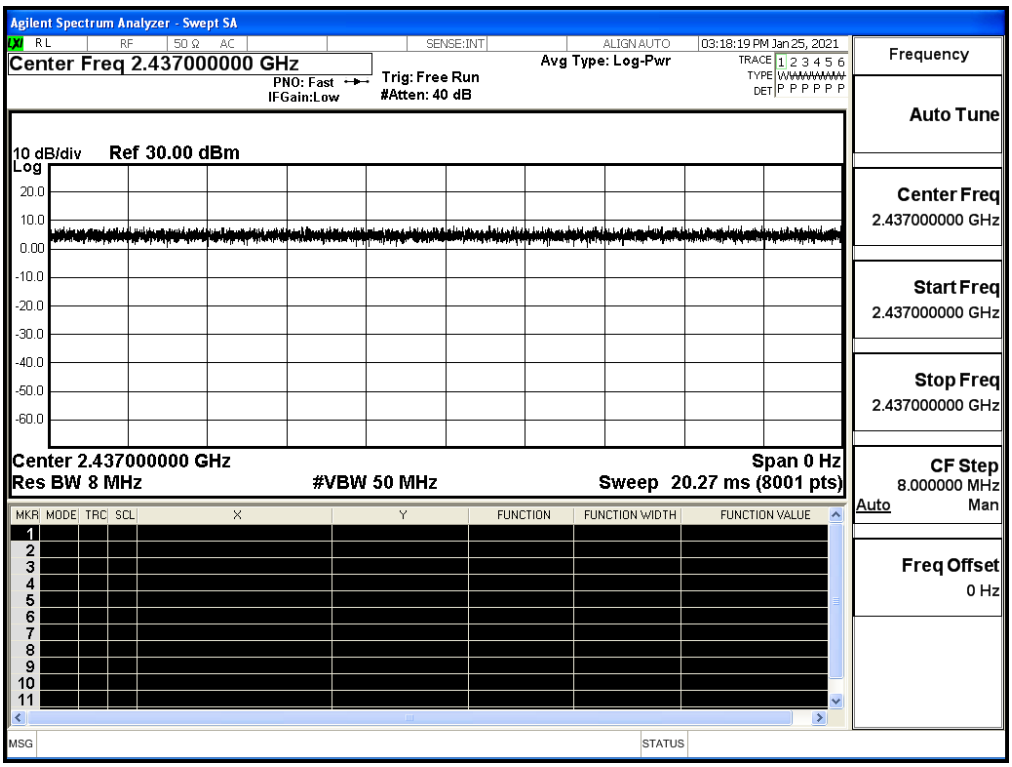
Duty Cycle_11B_2437_Ant0



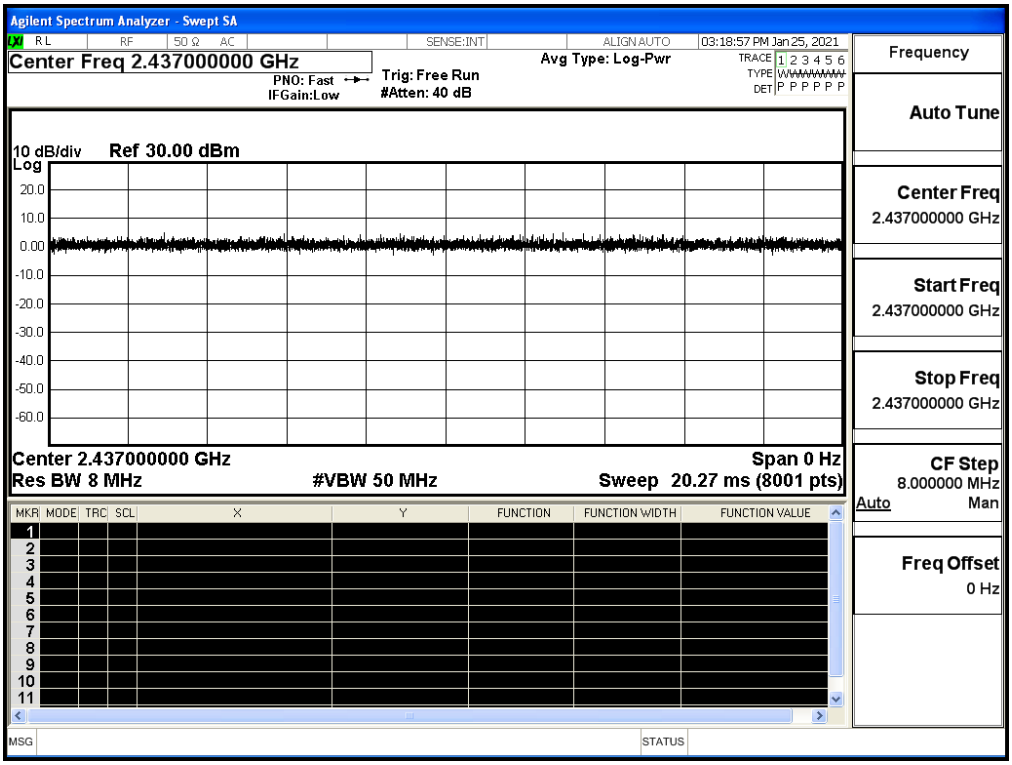
Duty Cycle_11G_2437_Ant0



Duty Cycle_11N20SISO_2437_Ant0



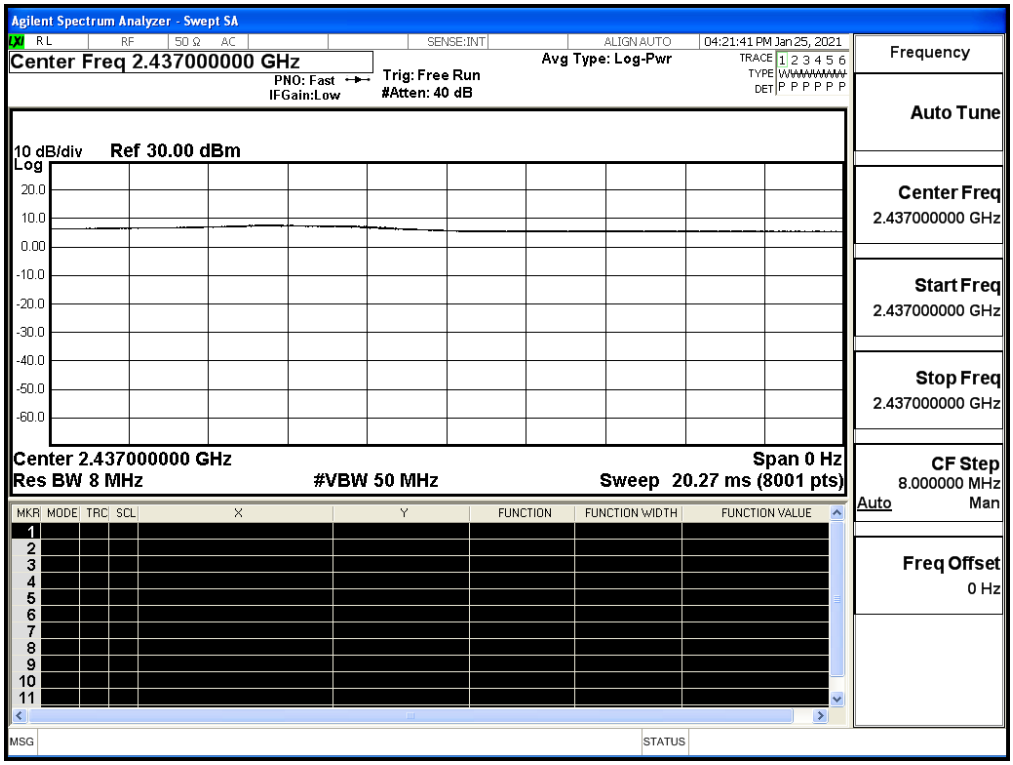
Duty Cycle_11N40SISO_2437_Ant0



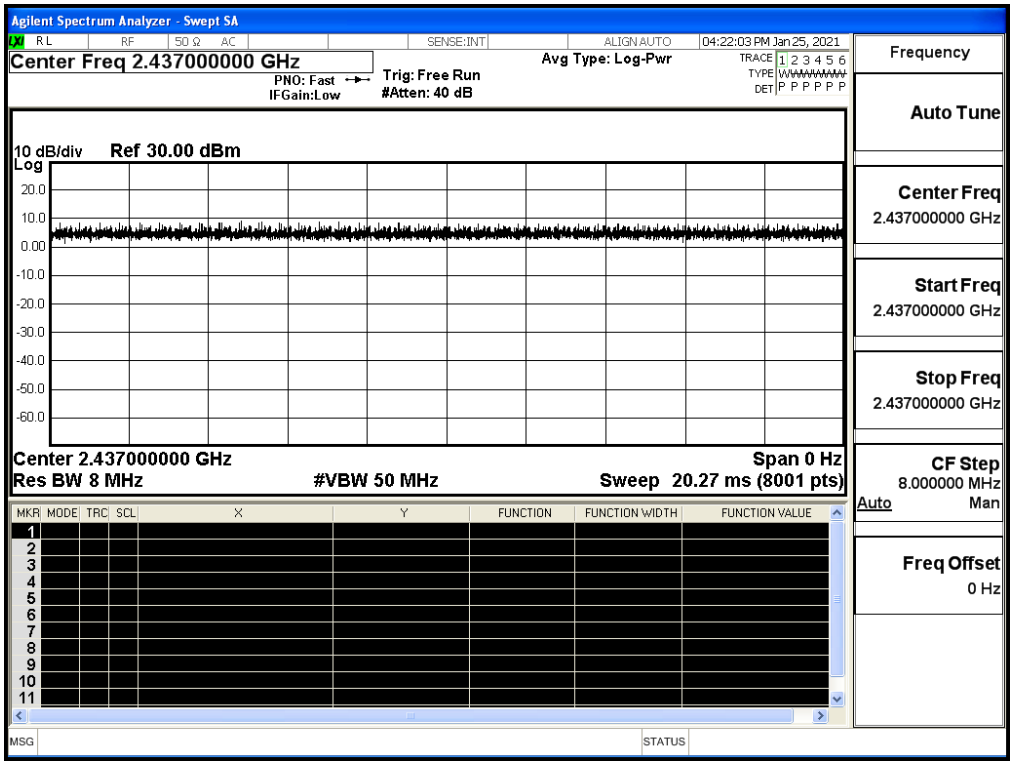
ANT1

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS
11N40SISO	2437	Ant1	100	PASS

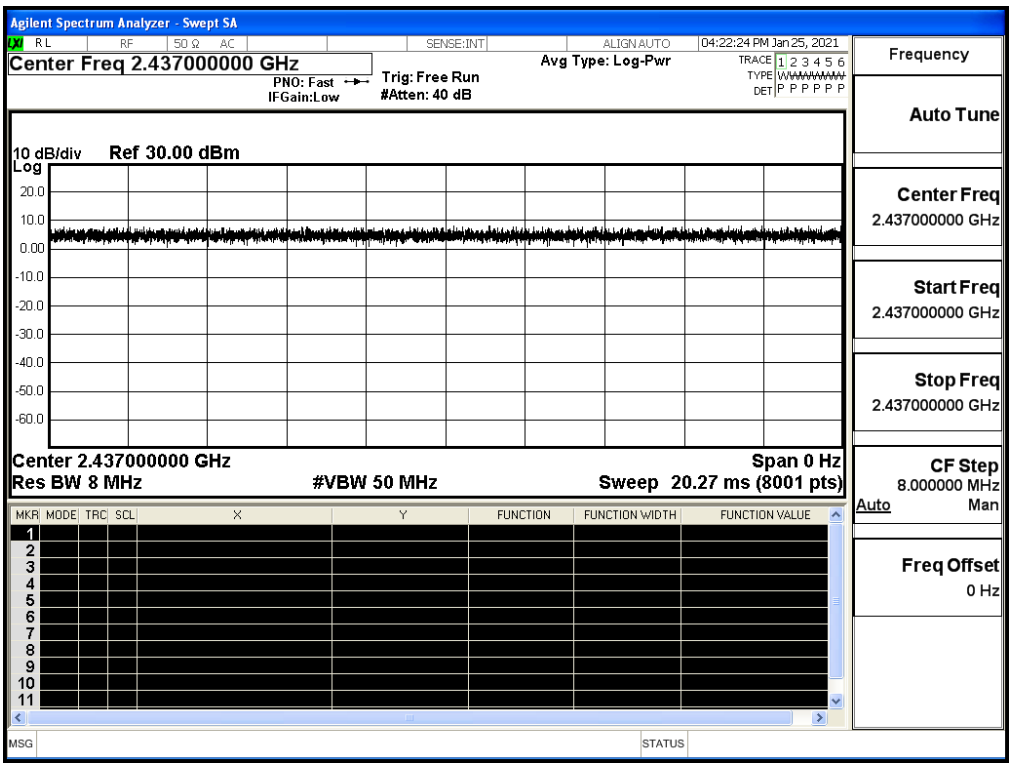
Duty Cycle_11B_2437_Ant1



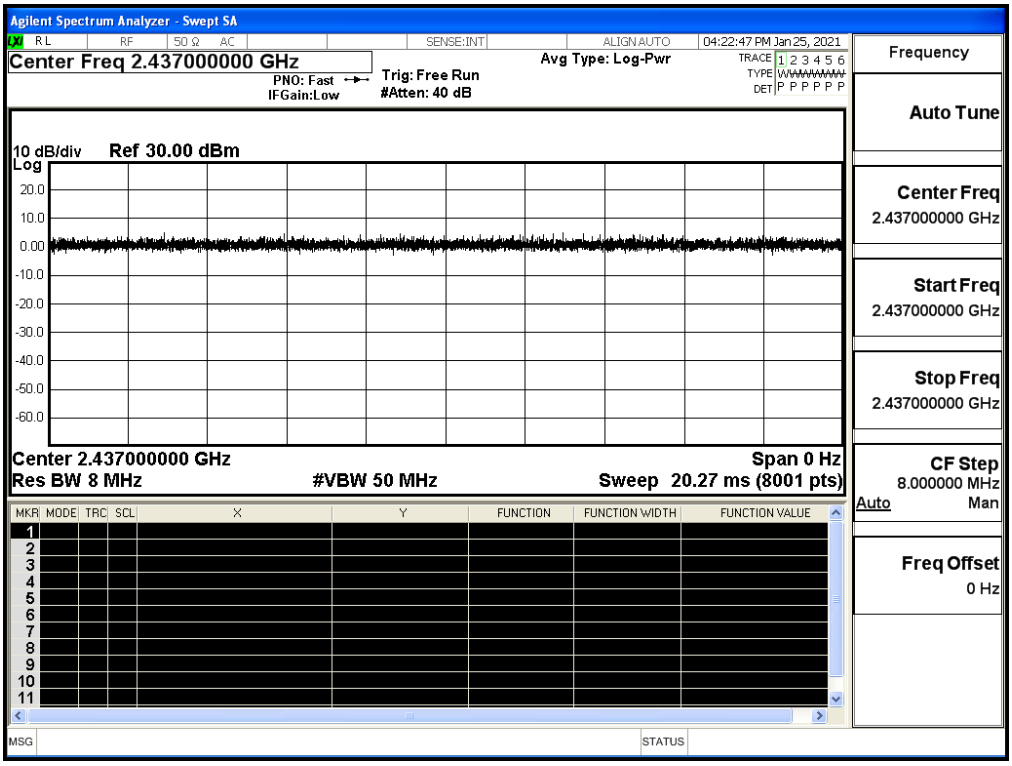
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1



A.2 Maximum Conducted Output Power

ANT0

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	10.7	30	PASS
	MCH	12.2	30	PASS
	HCH	12.76	30	PASS
11G	LCH	10.51	30	PASS
	MCH	11.76	30	PASS
	HCH	12.48	30	PASS
11N20SISO	LCH	10.05	30	PASS
	MCH	11.52	30	PASS
	HCH	12.03	30	PASS
11N40SISO	LCH	9.99	30	PASS
	MCH	10.74	30	PASS
	HCH	11.15	30	PASS

Mode	Channel	Meas.Level [dBm]	Ant Gain (dBi)	Report EIRP Power(dBm)	Limit [dBm]	Verdict
11B	LCH	10.7	5.0	15.70	36	PASS
	MCH	12.2	5.0	17.20	36	PASS
	HCH	12.76	5.0	17.76	36	PASS
11G	LCH	10.51	5.0	15.51	36	PASS
	MCH	11.76	5.0	16.76	36	PASS
	HCH	12.48	5.0	17.48	36	PASS
11N20SISO	LCH	10.05	5.0	15.05	36	PASS
	MCH	11.52	5.0	16.52	36	PASS
	HCH	12.03	5.0	17.03	36	PASS
11N40SISO	LCH	9.99	5.0	14.99	36	PASS
	MCH	10.74	5.0	15.74	36	PASS
	HCH	11.15	5.0	16.15	36	PASS

ANT1

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	10.01	30	PASS
	MCH	11.62	30	PASS
	HCH	12.91	30	PASS
11G	LCH	10.7	30	PASS
	MCH	12.38	30	PASS
	HCH	13.77	30	PASS
11N20SISO	LCH	10.32	30	PASS
	MCH	11.96	30	PASS
	HCH	13.37	30	PASS
11N40SISO	LCH	10.45	30	PASS
	MCH	11.21	30	PASS
	HCH	12.25	30	PASS

Mode	Channel	Meas.Level [dBm]	Ant Gain (dBi)	Report EIRP Power(dBm)	Limit [dBm]	Verdict
11B	LCH	10.01	5.0	15.01	36	PASS
	MCH	11.62	5.0	16.62	36	PASS
	HCH	12.91	5.0	17.91	36	PASS
11G	LCH	10.7	5.0	15.7	36	PASS
	MCH	12.38	5.0	17.38	36	PASS
	HCH	13.77	5.0	18.77	36	PASS
11N20SISO	LCH	10.32	5.0	15.32	36	PASS
	MCH	11.96	5.0	16.96	36	PASS
	HCH	13.37	5.0	18.37	36	PASS
11N40SISO	LCH	10.45	5.0	15.45	36	PASS
	MCH	11.21	5.0	16.21	36	PASS
	HCH	12.25	5.0	17.25	36	PASS

MIMO

Mode	Channel	ANT 0 [dBm]	ANT 1 [dBm]	MIMO [dBm]	Limit [dBm]	Verdict
11N20	LCH	10.05	10.32	13.20	27.99	PASS
	MCH	11.52	11.96	14.76	27.99	PASS
	HCH	12.03	13.37	15.76	27.99	PASS
11N40	LCH	9.99	10.45	13.24	27.99	PASS
	MCH	10.74	11.21	13.99	27.99	PASS
	HCH	11.15	12.25	14.75	27.99	PASS

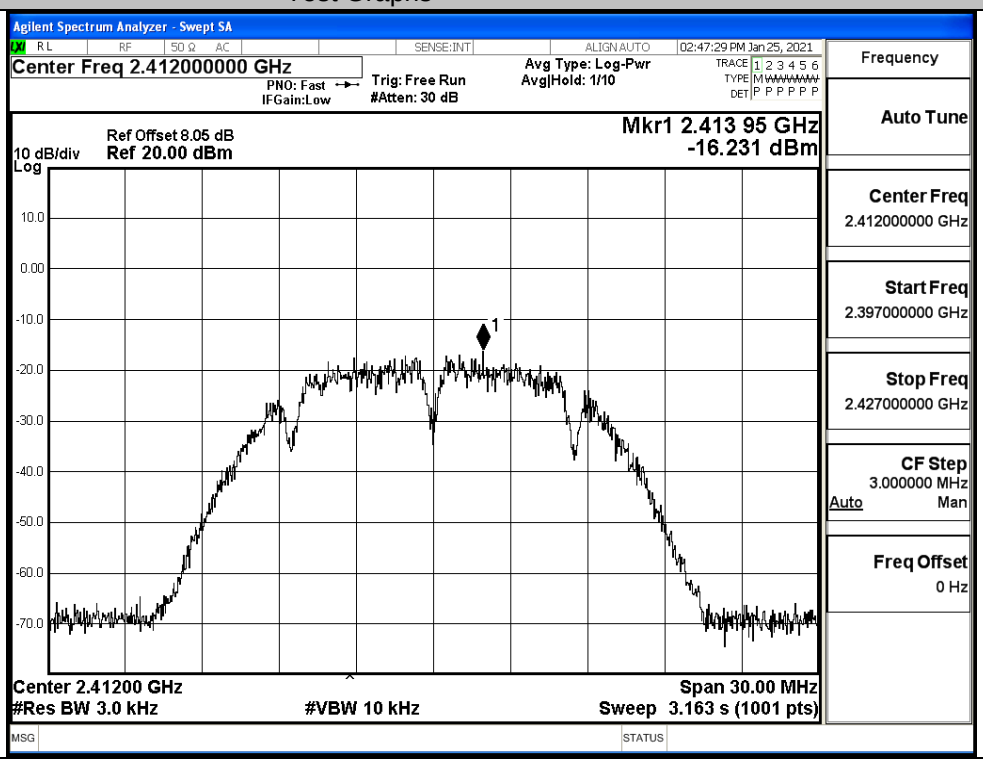
MIMO

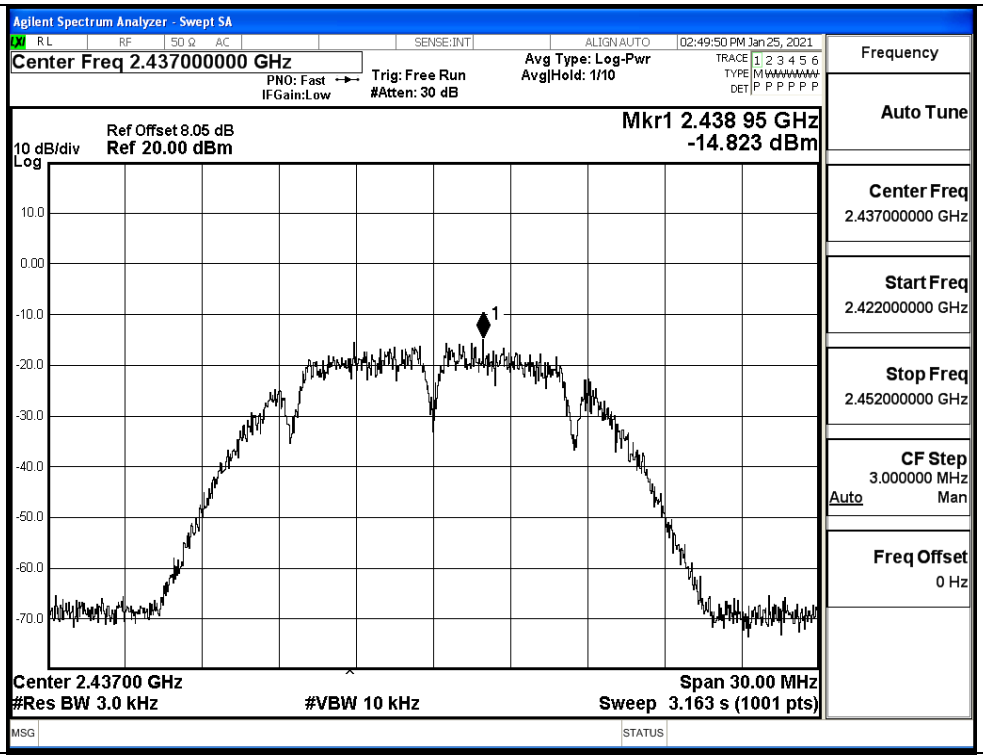
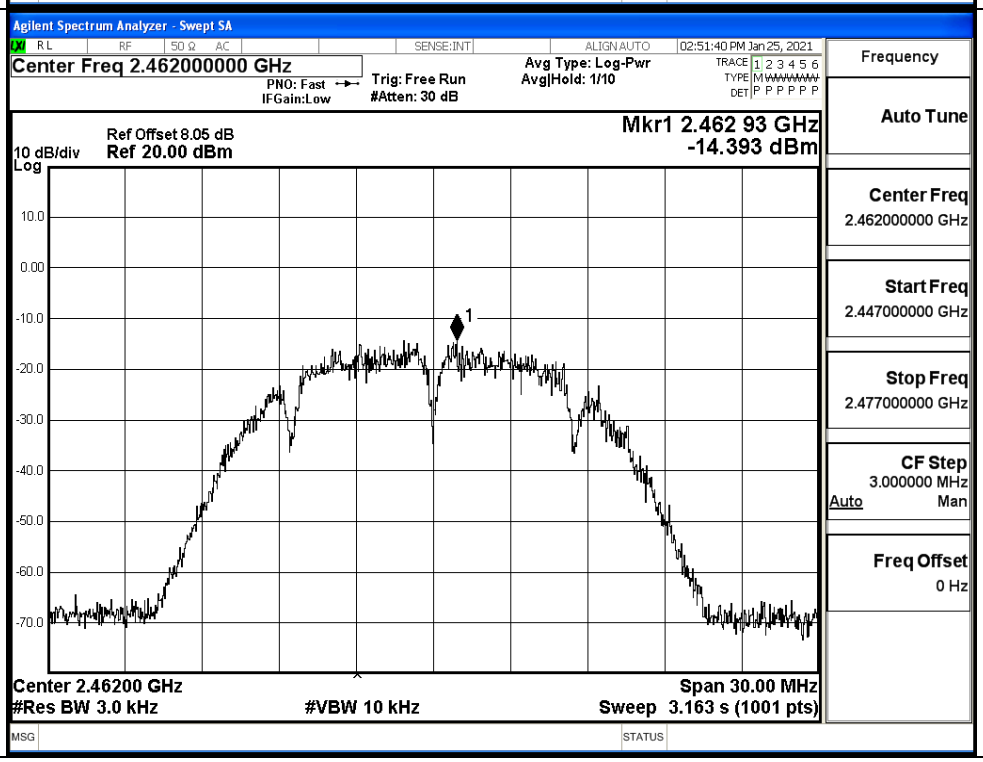
Mode	Channel	ANT 0 [dBm]	ANT 1 [dBm]	MIMO EIRP Power(dBm)	Limit [dBm]	Verdict
11N20	LCH	15.05	15.32	18.20	33.99	PASS
	MCH	16.52	16.96	19.76	33.99	PASS
	HCH	17.03	18.37	20.76	33.99	PASS
11N40	LCH	14.99	15.45	18.24	33.99	PASS
	MCH	15.74	16.21	18.99	33.99	PASS
	HCH	16.15	17.25	19.75	33.99	PASS

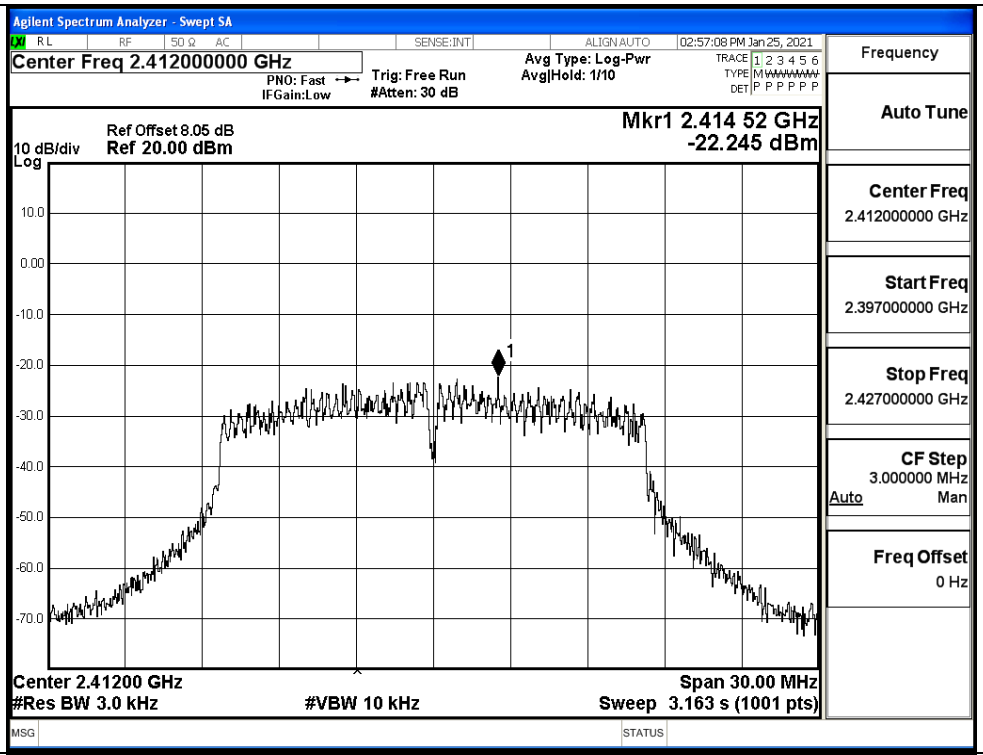
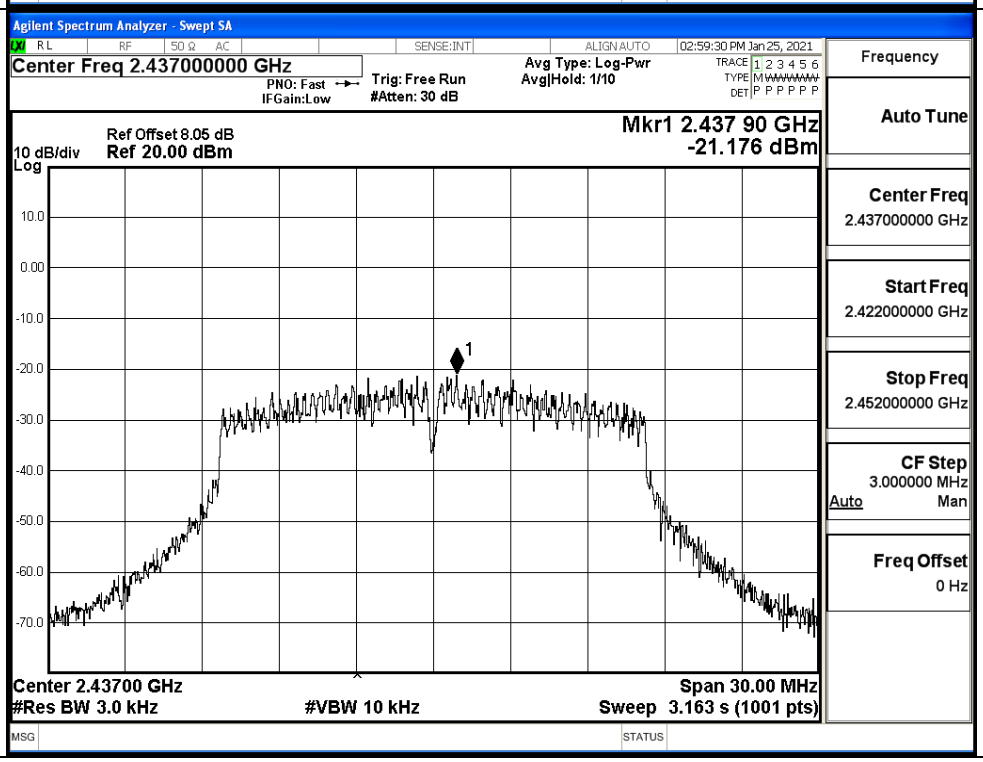
A.3 Maximum Power Spectral Density

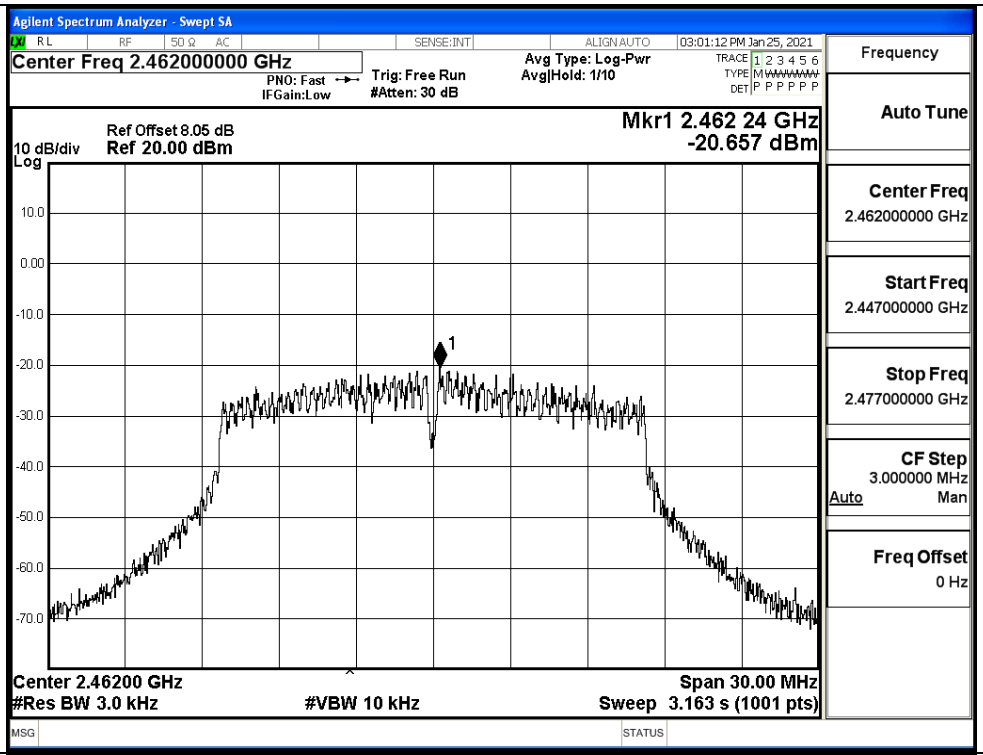
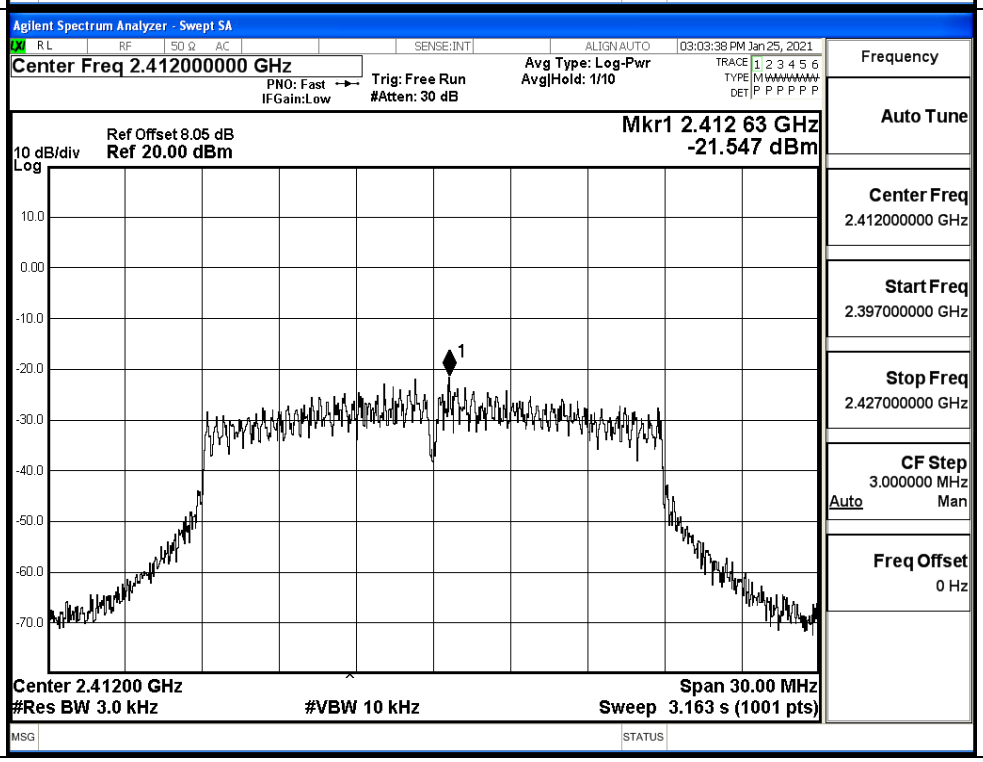
ANT0

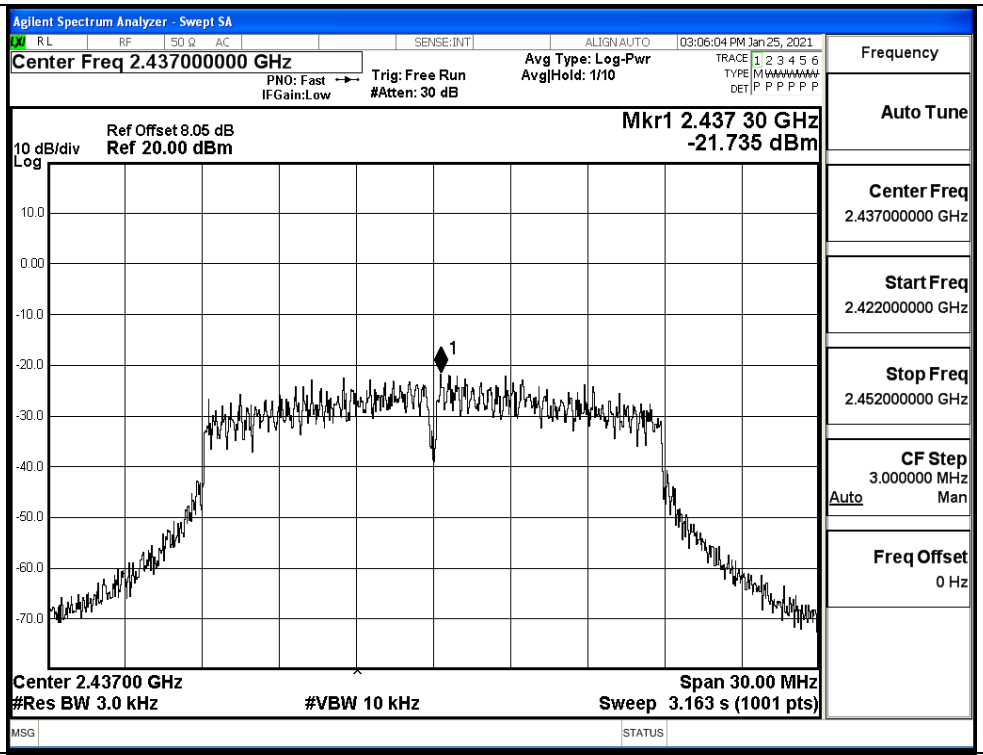
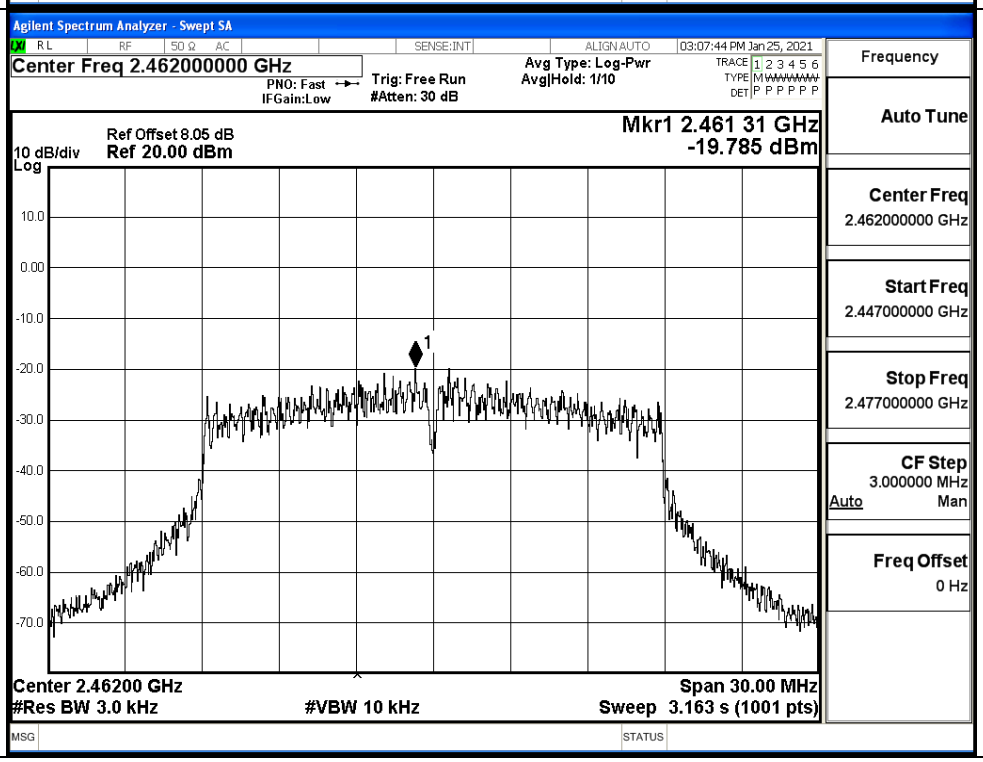
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-16.231	8	PASS
	MCH	-14.823	8	PASS
	HCH	-14.393	8	PASS
11G	LCH	-22.245	8	PASS
	MCH	-21.176	8	PASS
	HCH	-20.657	8	PASS
11N20SISO	LCH	-21.547	8	PASS
	MCH	-21.735	8	PASS
	HCH	-19.785	8	PASS
11N40SISO	LCH	-23.734	8	PASS
	MCH	-23.155	8	PASS
	HCH	-23.287	8	PASS

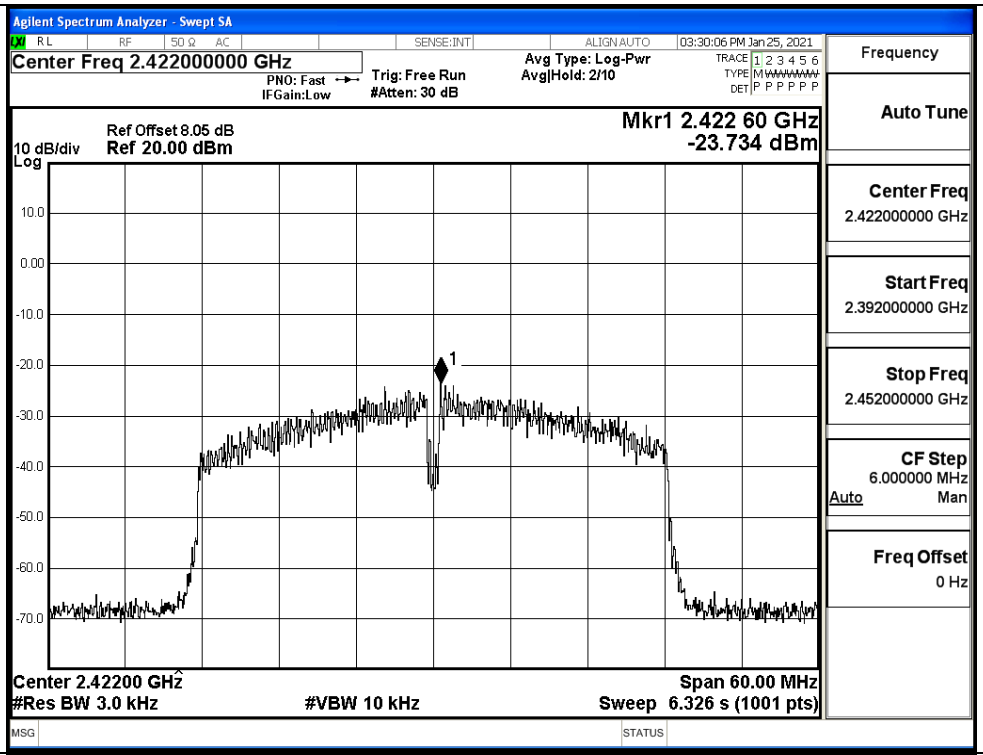
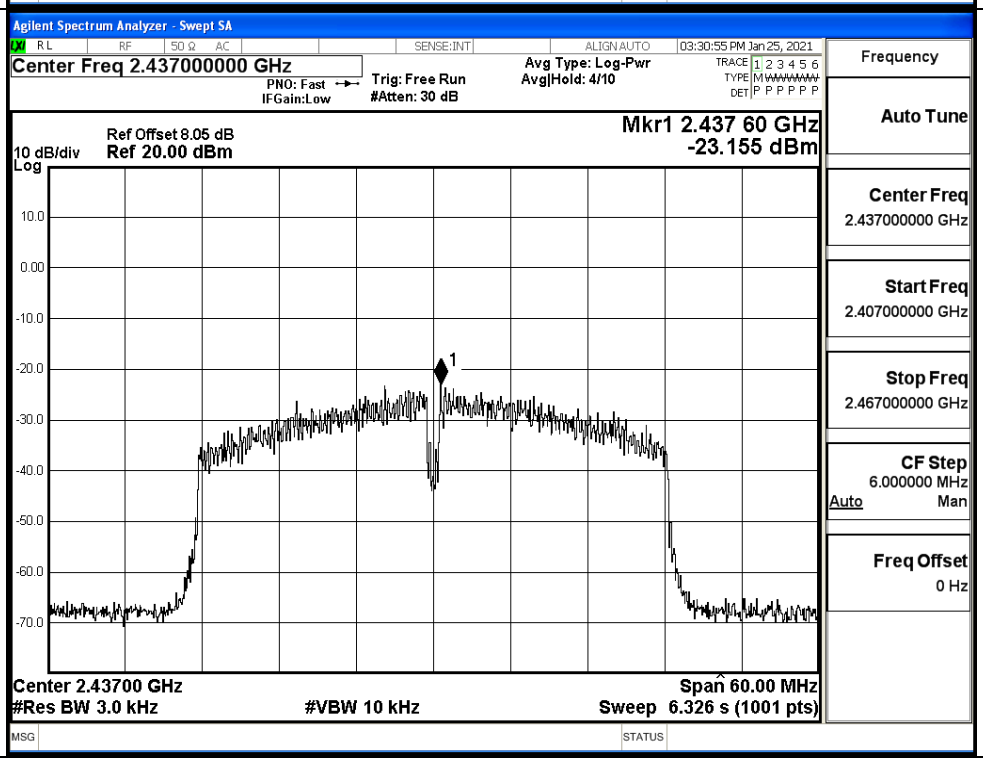
Test Graphs		
11B/LCH		

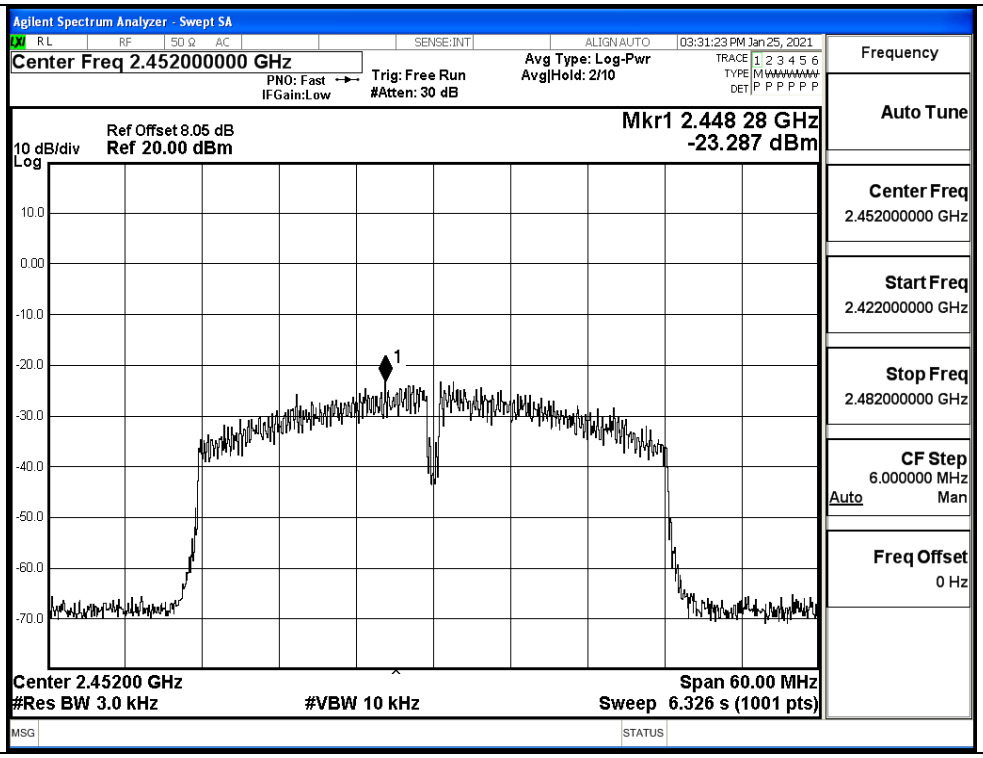
11B/MCH		
11B/HCH		

11G/LCH		
11G/MCH		

11G/HCH		
11N20SISO/LCH		

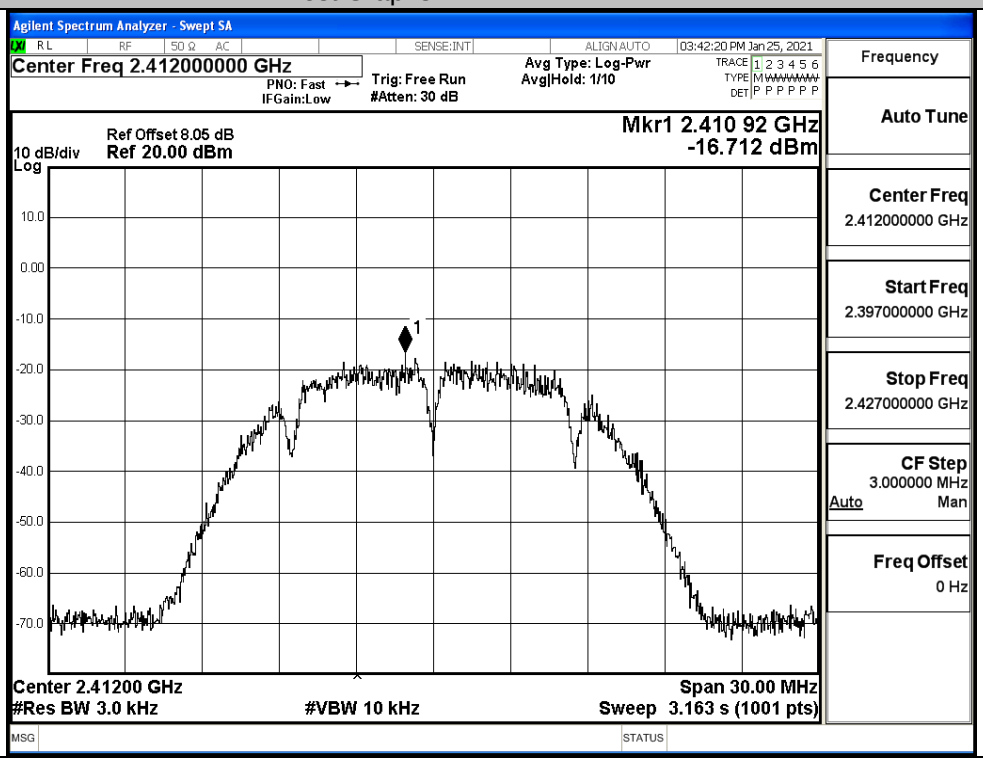
11N20SISO/MCH		
11N20SISO/HCH		

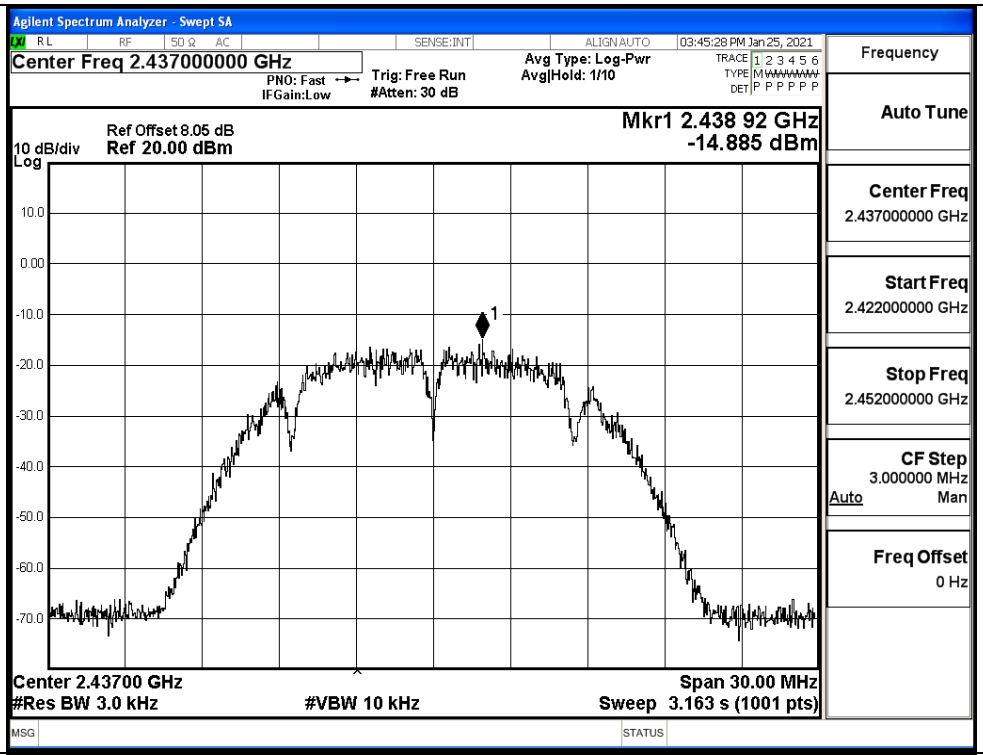
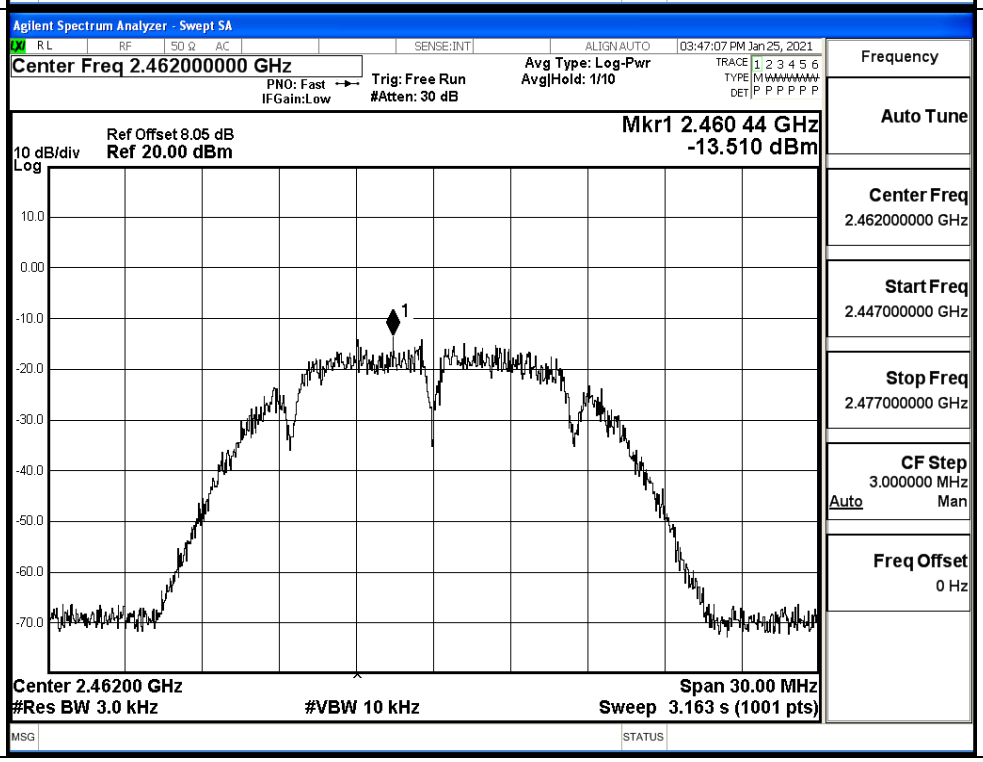
11N40SISO/LCH		
11N40SISO/MCH		

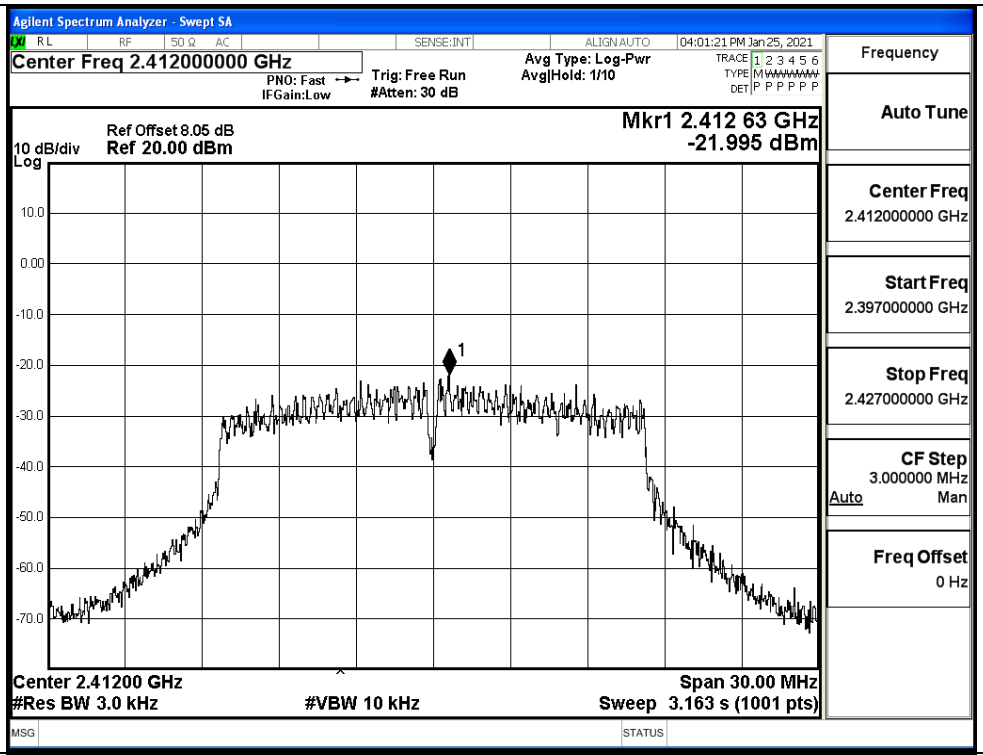
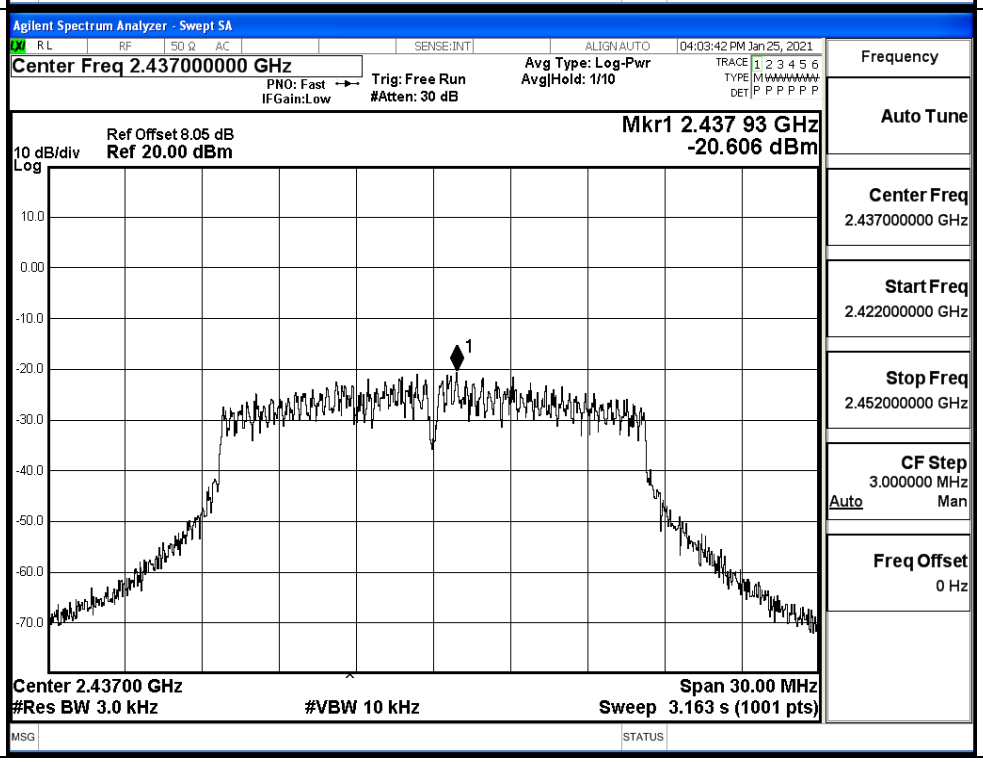
11N40SISO/HCH		

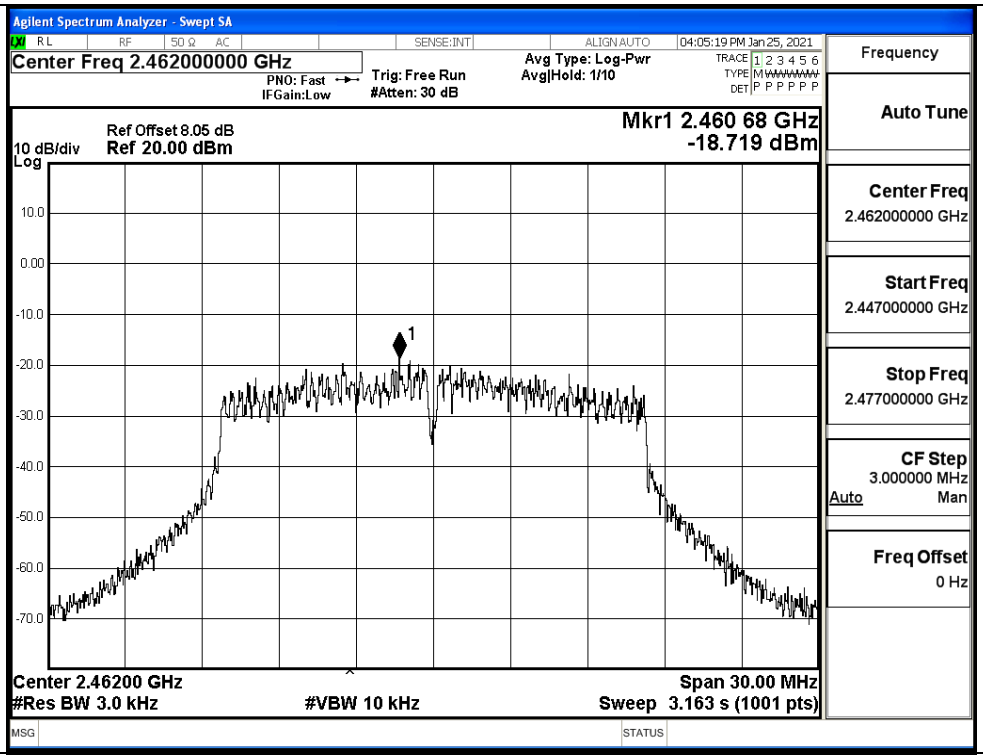
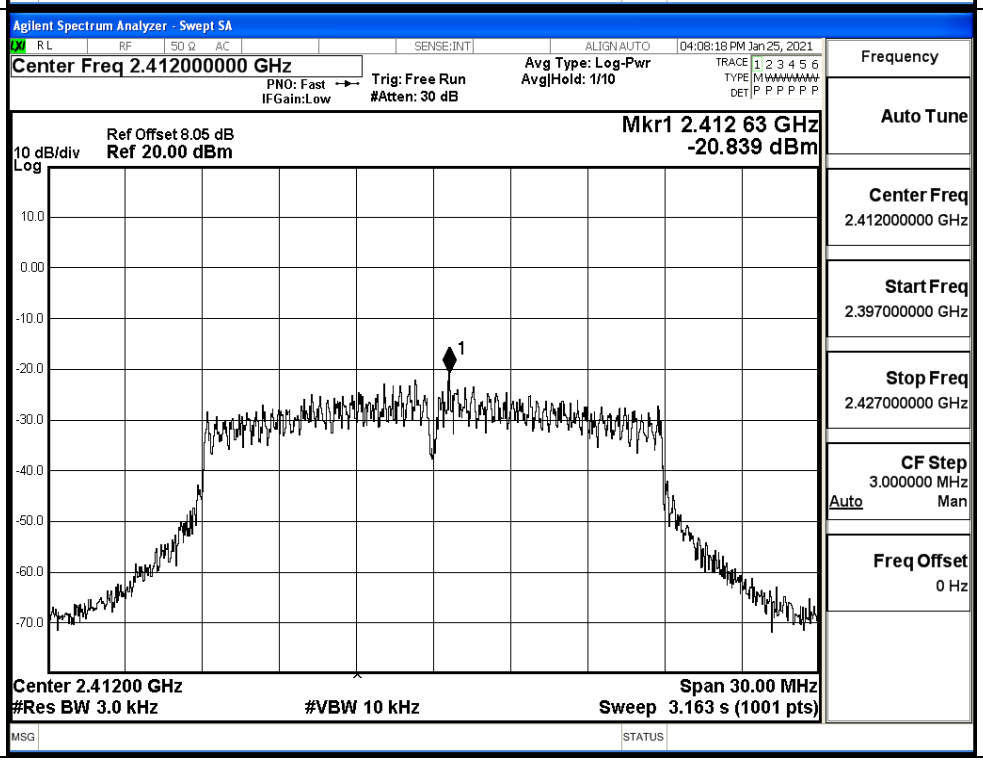
ANT1

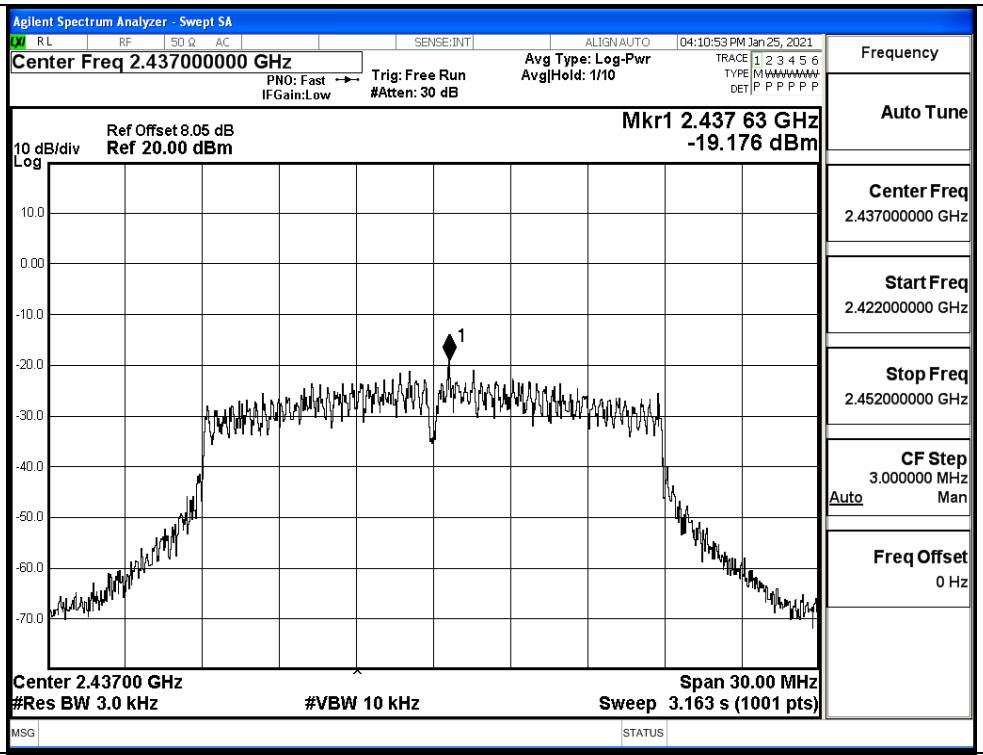
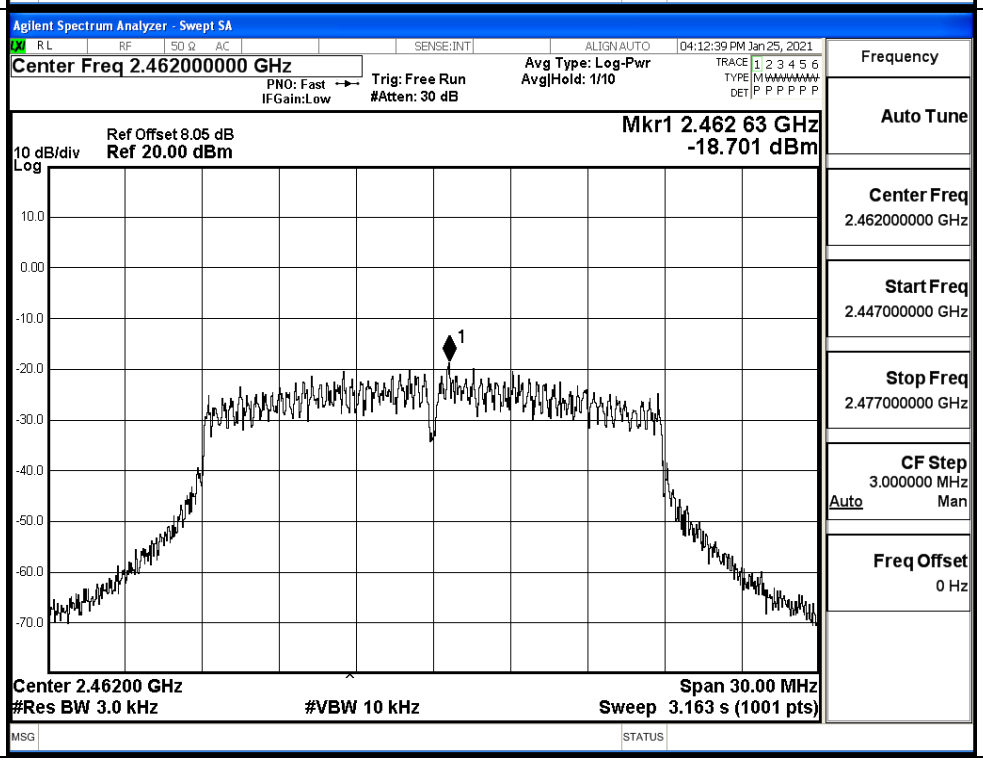
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-16.712	8	PASS
	MCH	-14.885	8	PASS
	HCH	-13.510	8	PASS
11G	LCH	-21.995	8	PASS
	MCH	-20.606	8	PASS
	HCH	-18.719	8	PASS
11N20SISO	LCH	-20.839	8	PASS
	MCH	-19.176	8	PASS
	HCH	-18.701	8	PASS
11N40SISO	LCH	-23.821	8	PASS
	MCH	-22.528	8	PASS
	HCH	-21.625	8	PASS

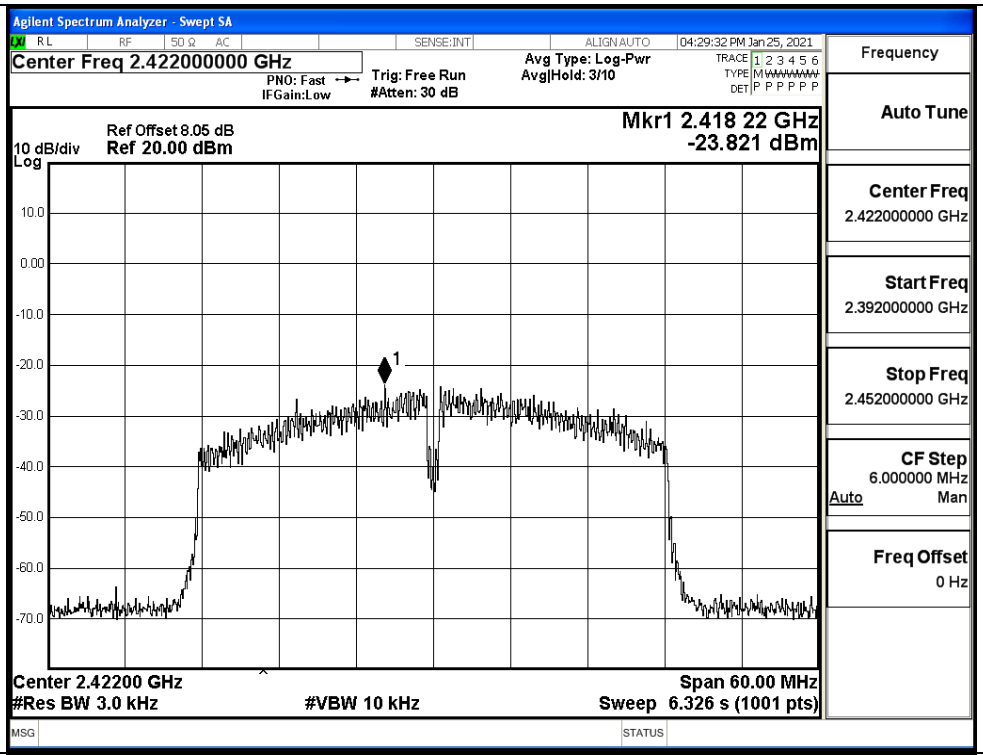
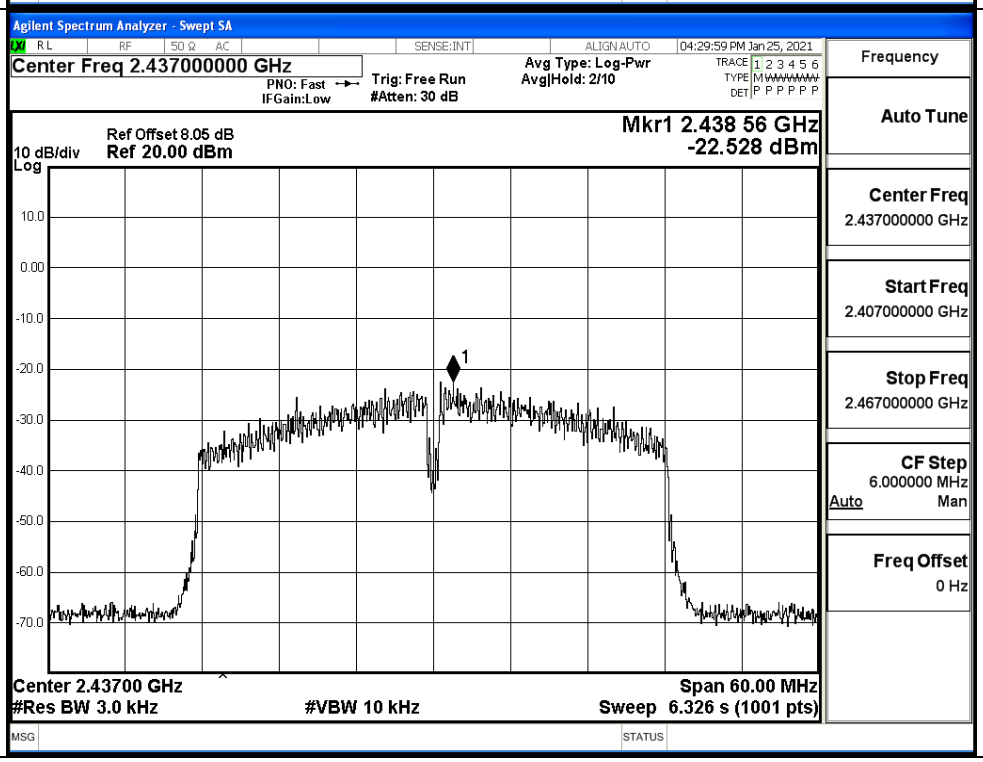
Test Graphs		
11B/LCH		

11B/MCH		
11B/HCH		

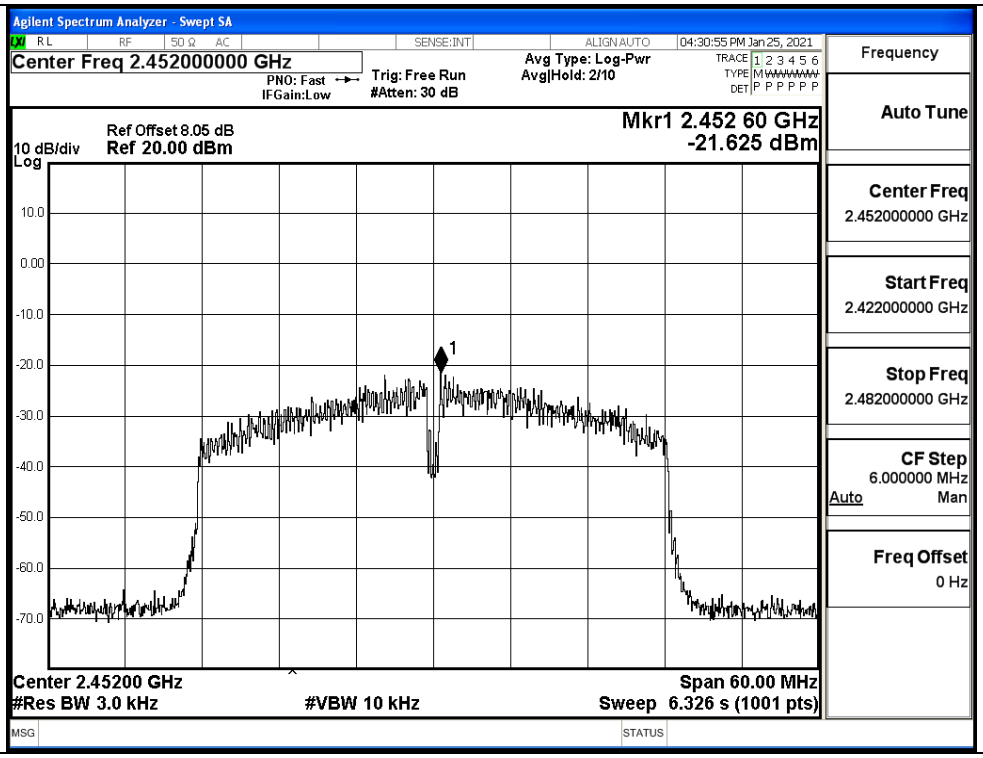
11G/LCH		
11G/MCH		

11G/HCH		
11N20SISO/LCH		

11N20SISO/MCH		
11N20SISO/HCH		

11N40SISO/LCH		
11N40SISO/MCH		

11N40SISO/HCH



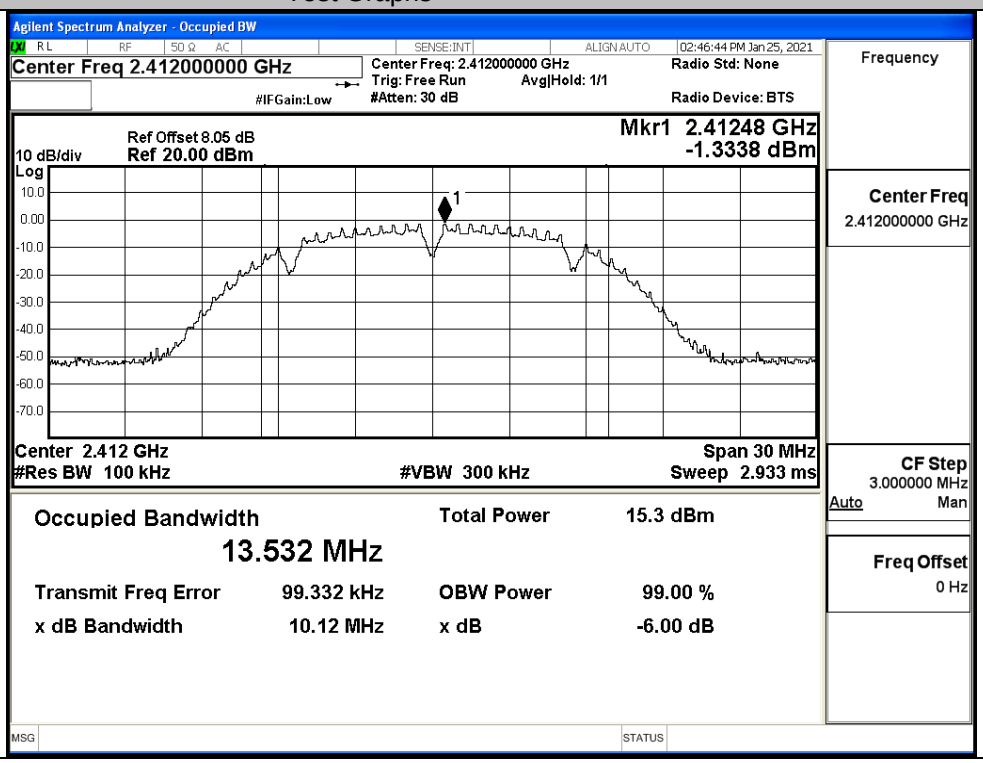
MIMO

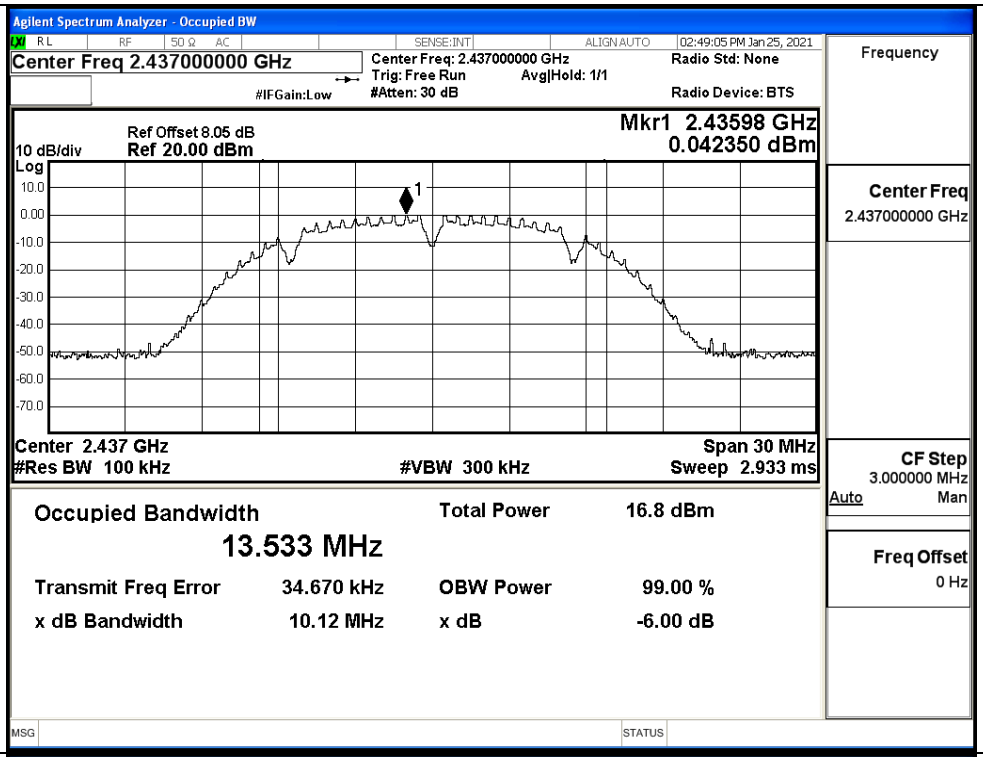
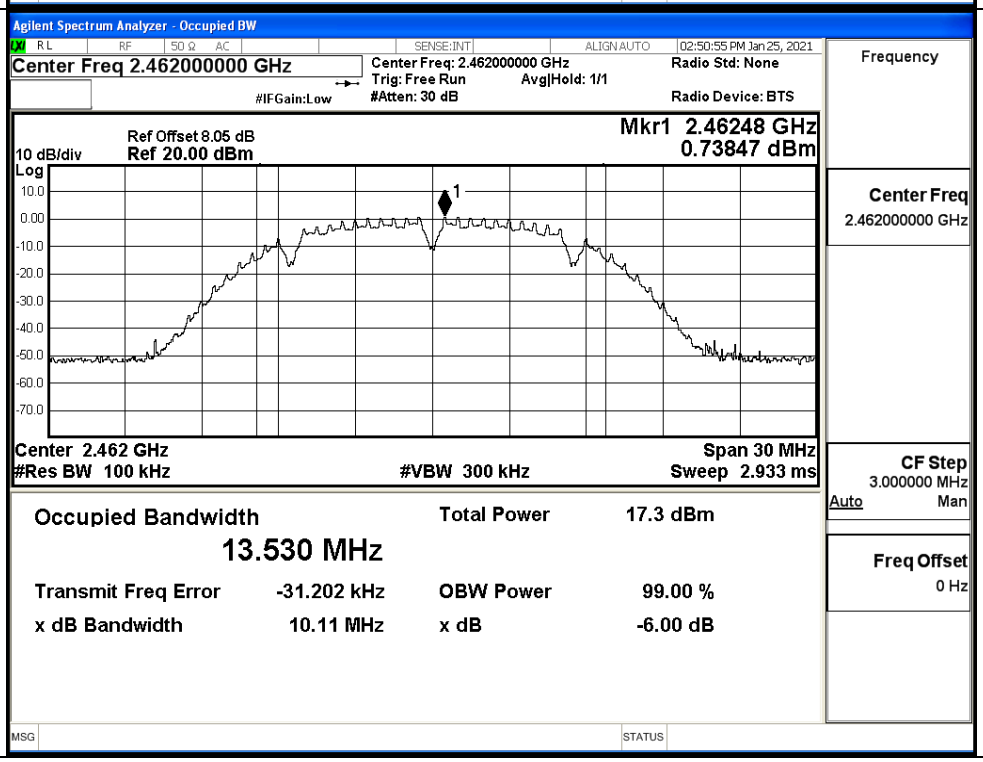
Mode	Channel	ANT 0 [dBm/3KHz]	ANT 1 [dBm/3KHz]	MIMO [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11N20	LCH	-21.547	-20.839	-18.168	6.99	PASS
	MCH	-21.735	-19.176	-17.259	6.99	PASS
	HCH	-19.785	-18.701	-16.199	6.99	PASS
11N40	LCH	-23.734	-23.821	-20.767	6.99	PASS
	MCH	-23.155	-22.528	-19.820	6.99	PASS
	HCH	-23.287	-21.625	-19.367	6.99	PASS

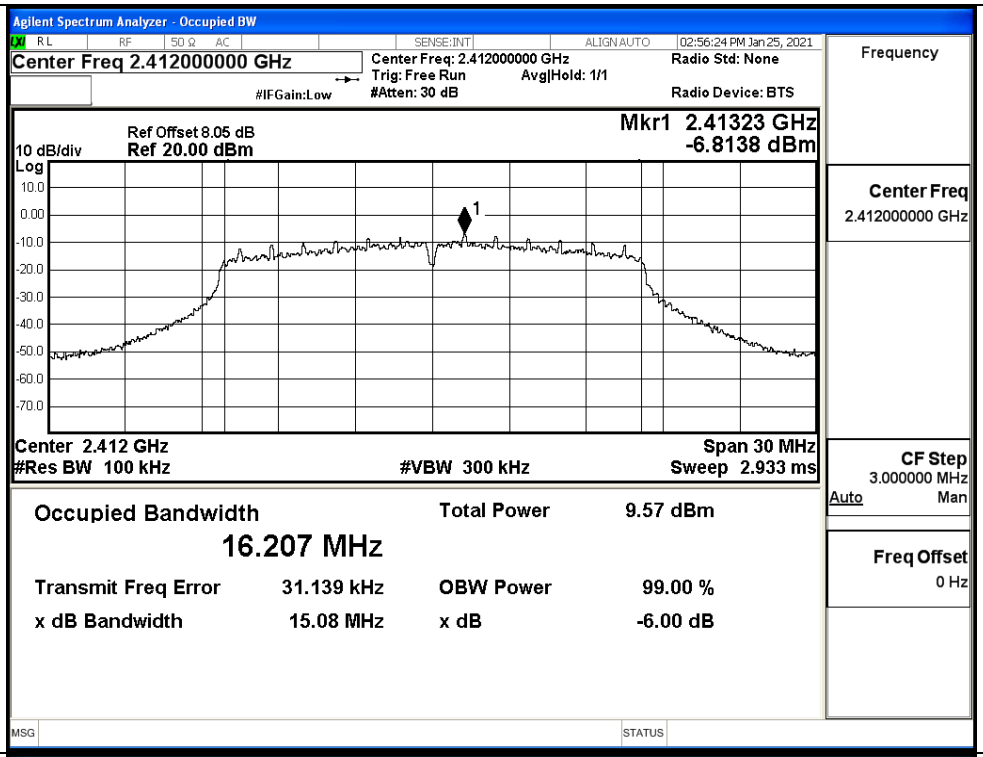
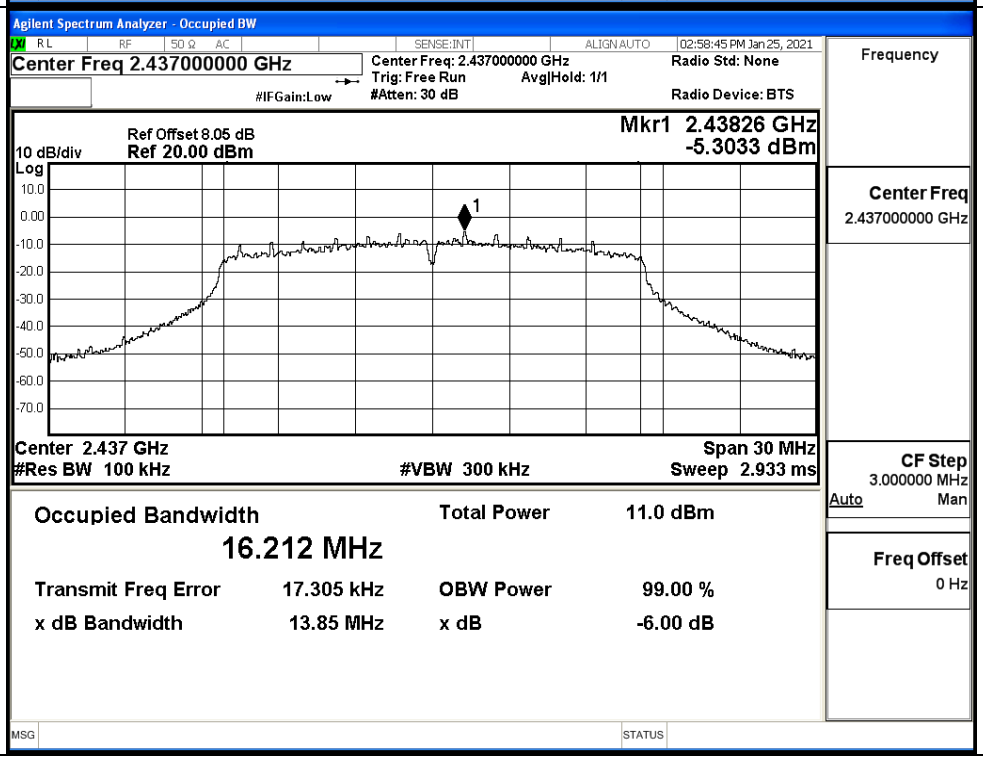
A.4 6dB Bandwidth

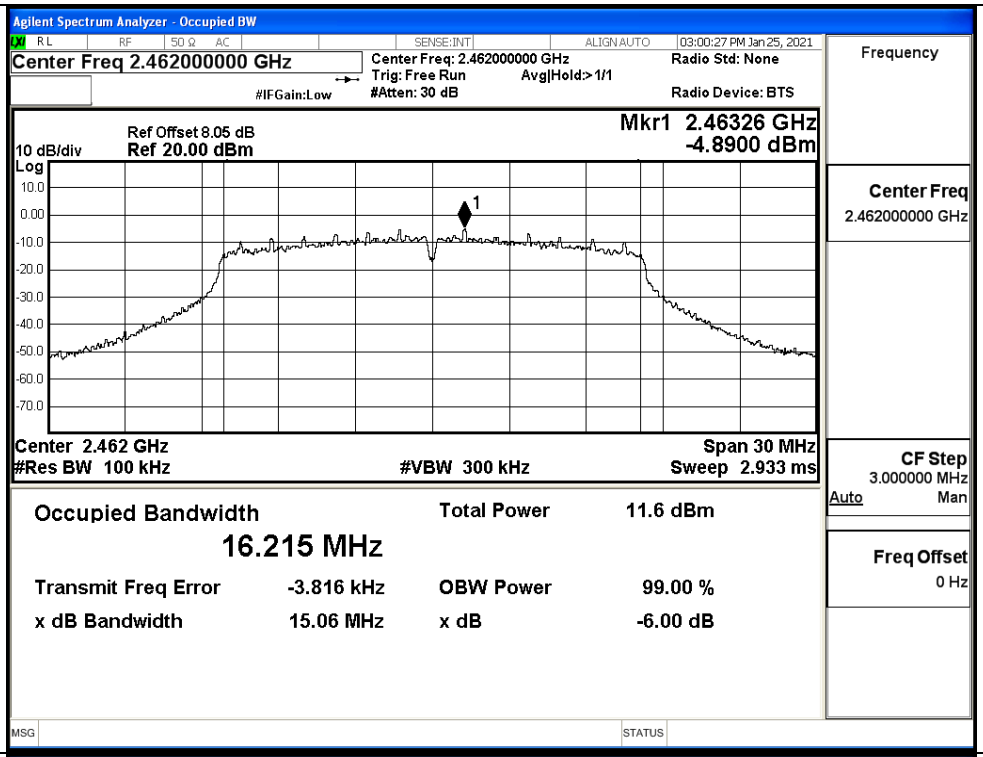
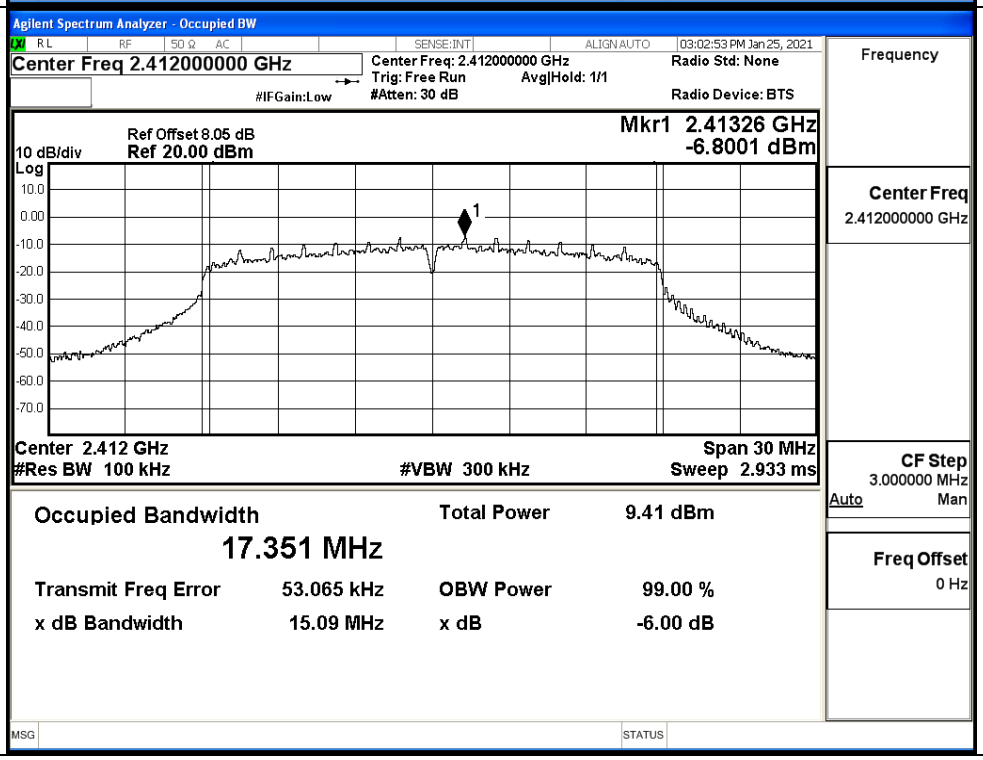
ANT0

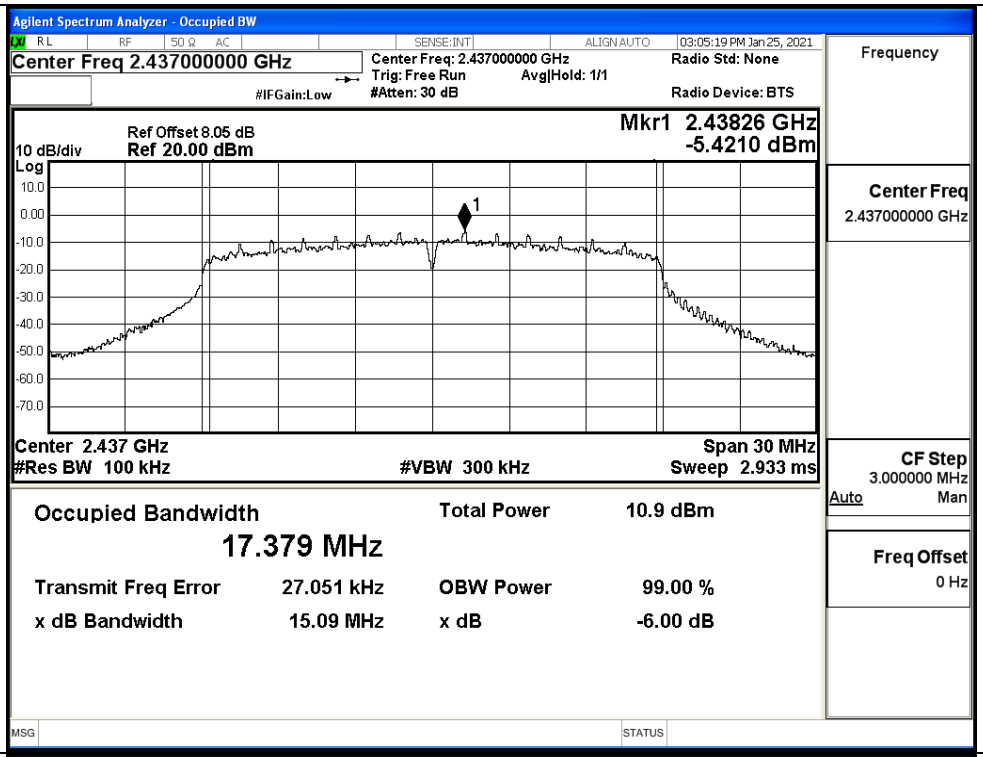
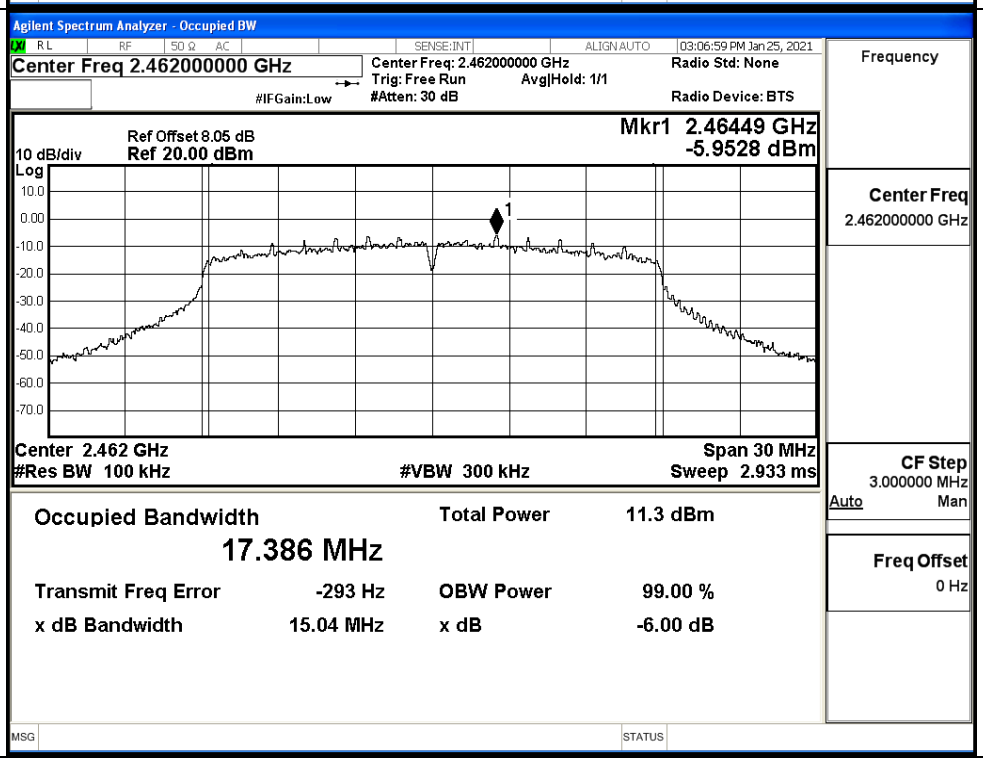
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.12	⩾0.5	PASS
	MCH	10.12	⩾0.5	PASS
	HCH	10.11	⩾0.5	PASS
11G	LCH	15.08	⩾0.5	PASS
	MCH	13.85	⩾0.5	PASS
	HCH	15.06	⩾0.5	PASS
11N20SISO	LCH	15.09	⩾0.5	PASS
	MCH	15.09	⩾0.5	PASS
	HCH	15.04	⩾0.5	PASS
11N40SISO	LCH	25.06	⩾0.5	PASS
	MCH	25.08	⩾0.5	PASS
	HCH	23.86	⩾0.5	PASS

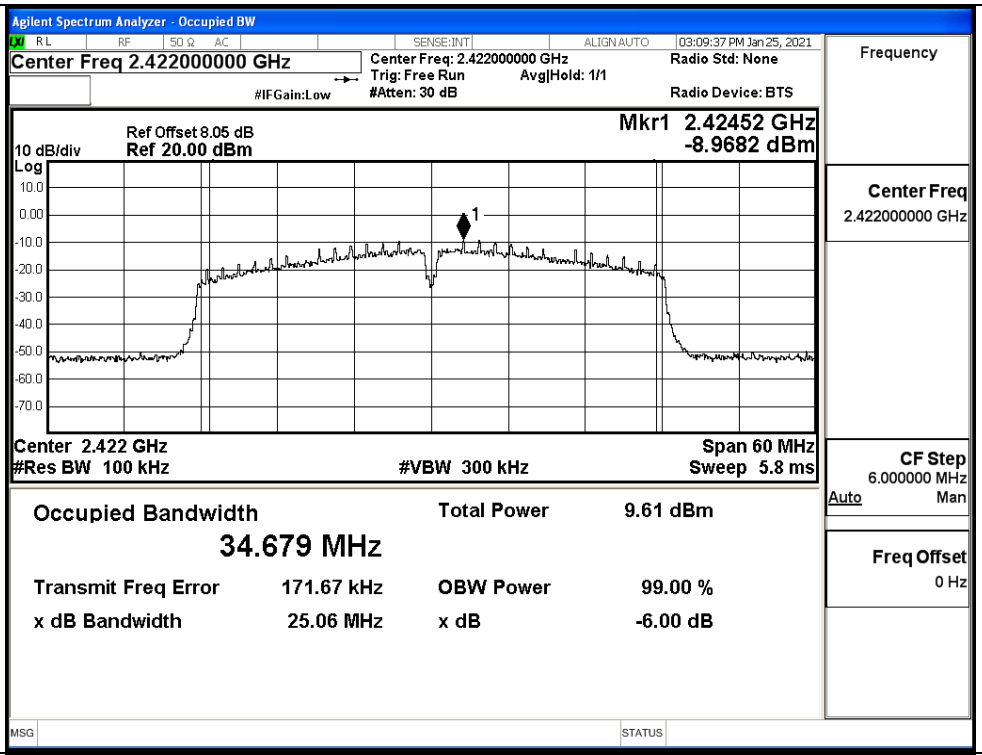
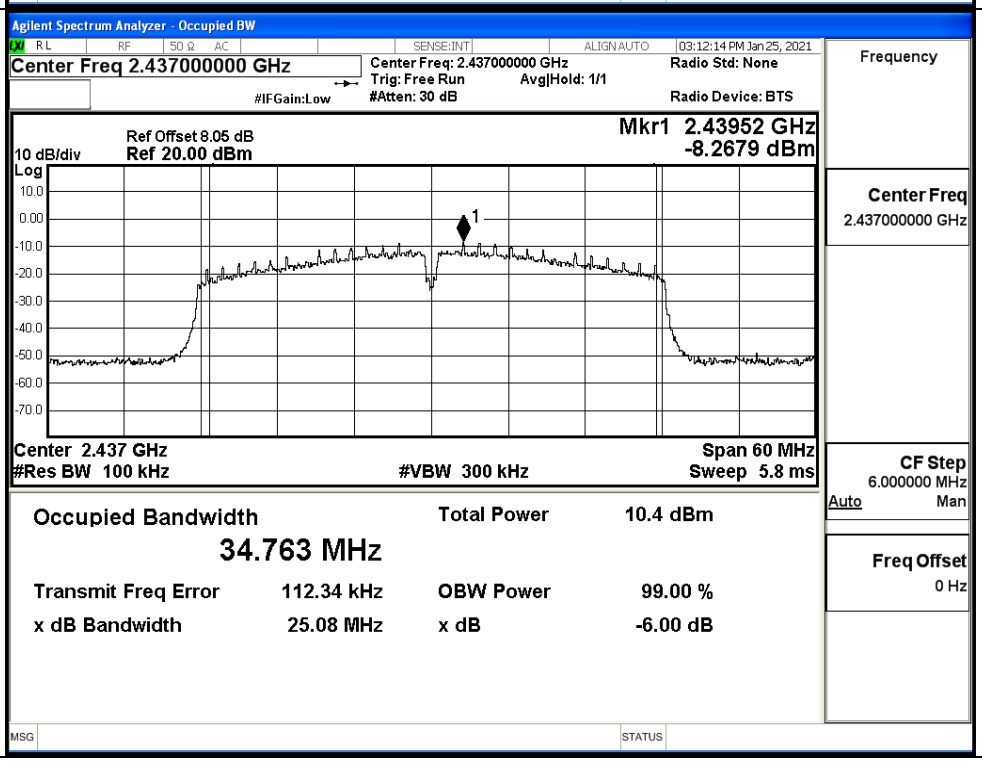
Test Graphs	
11B/LCH	

11B/MCH	
11B/HCH	

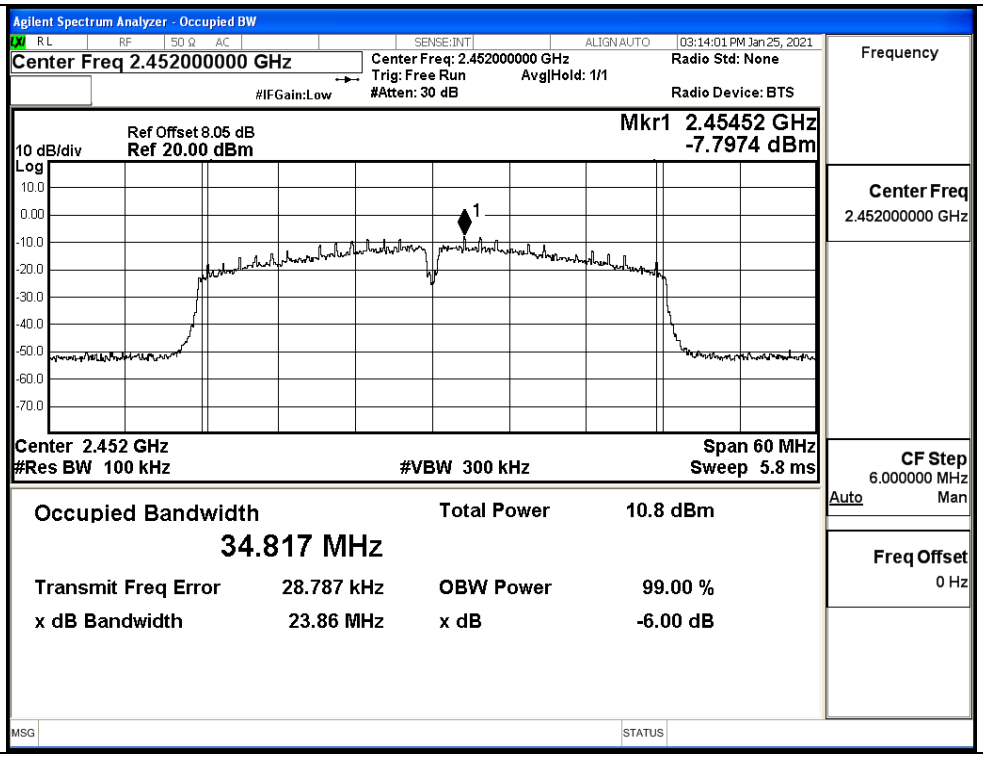
11G/LCH		
11G/MCH		

11G/HCH	
11N20SISO/LCH	

11N20SISO/MCH	
11N20SISO/HCH	

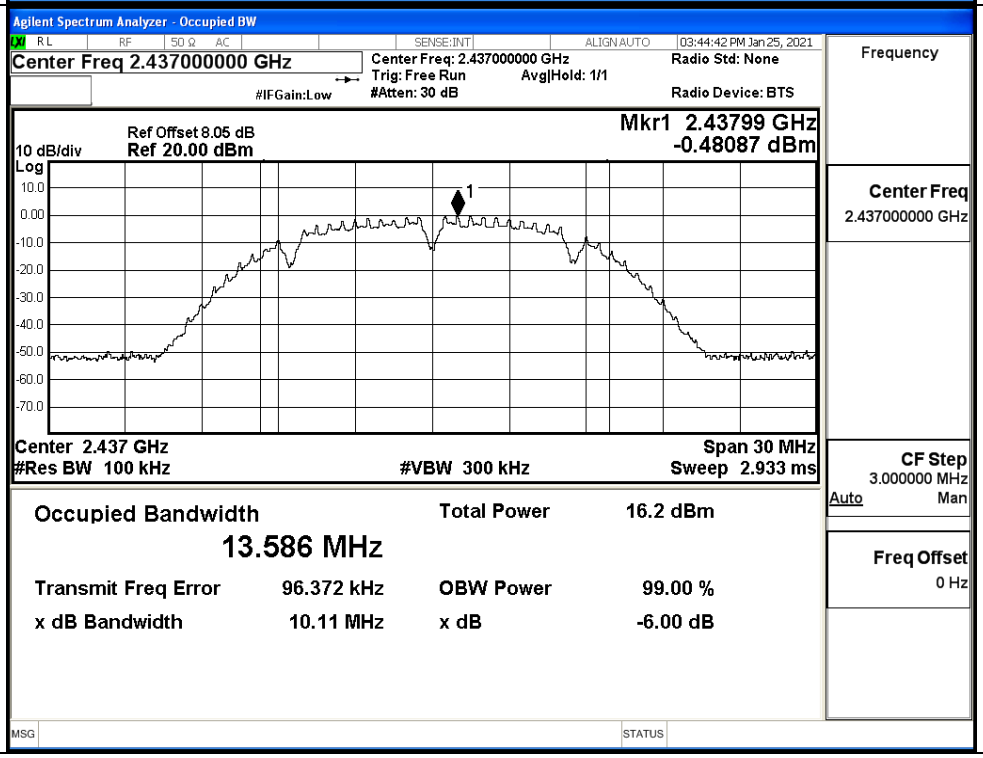
11N40SISO/LCH		
11N40SISO/MCH		

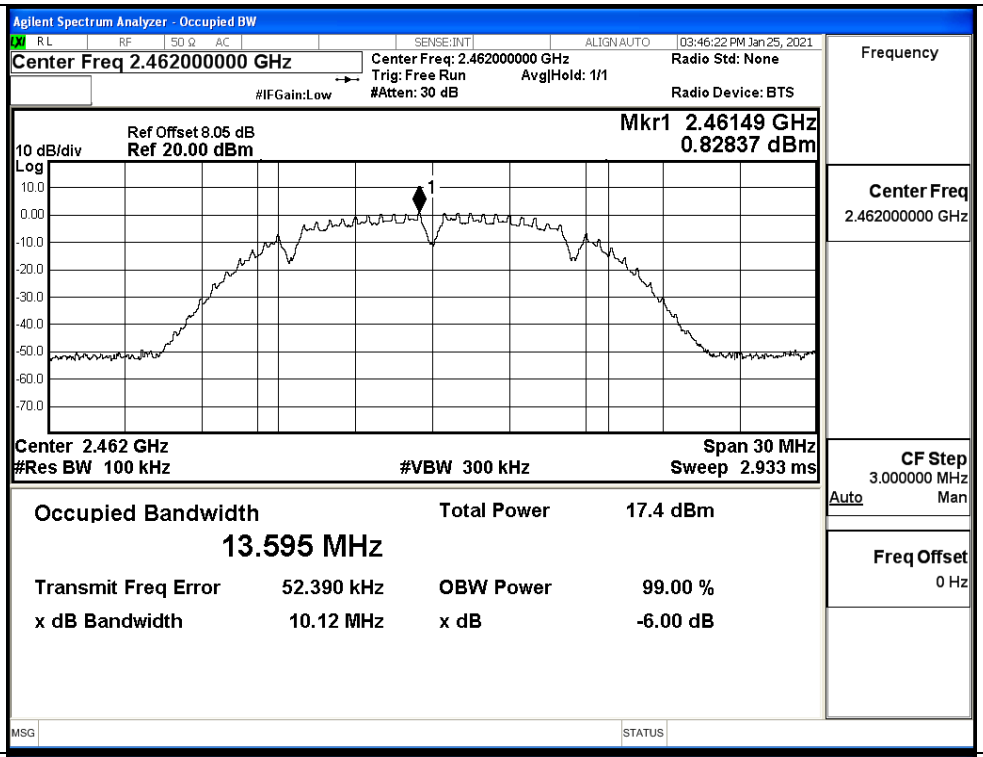
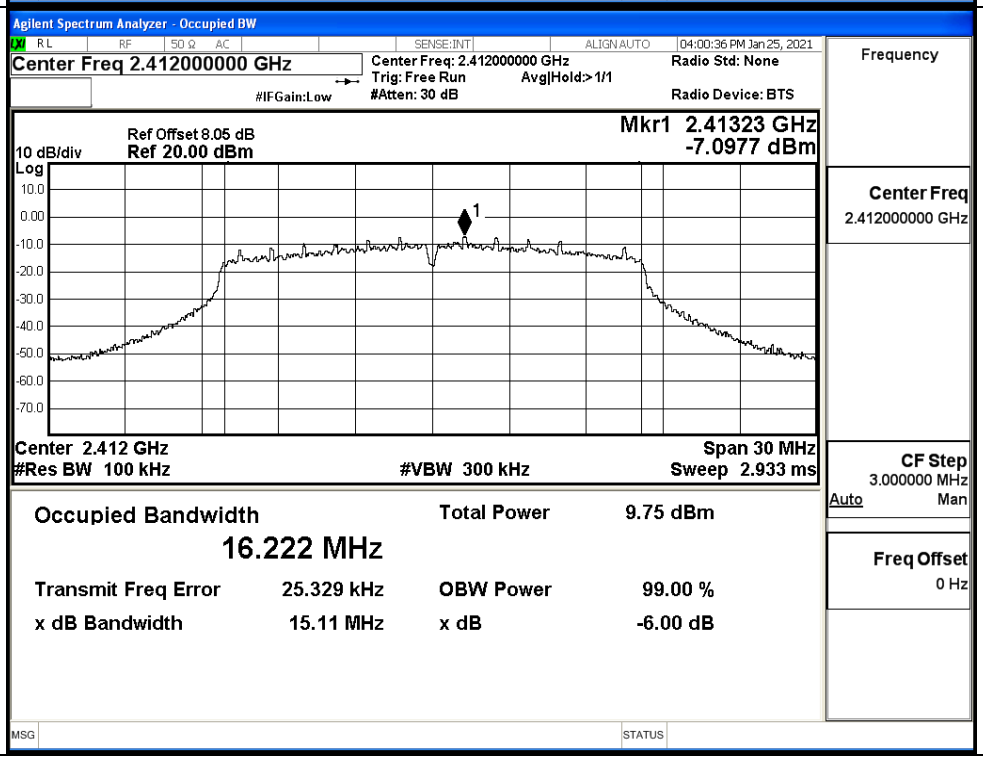
11N40SISO/HCH

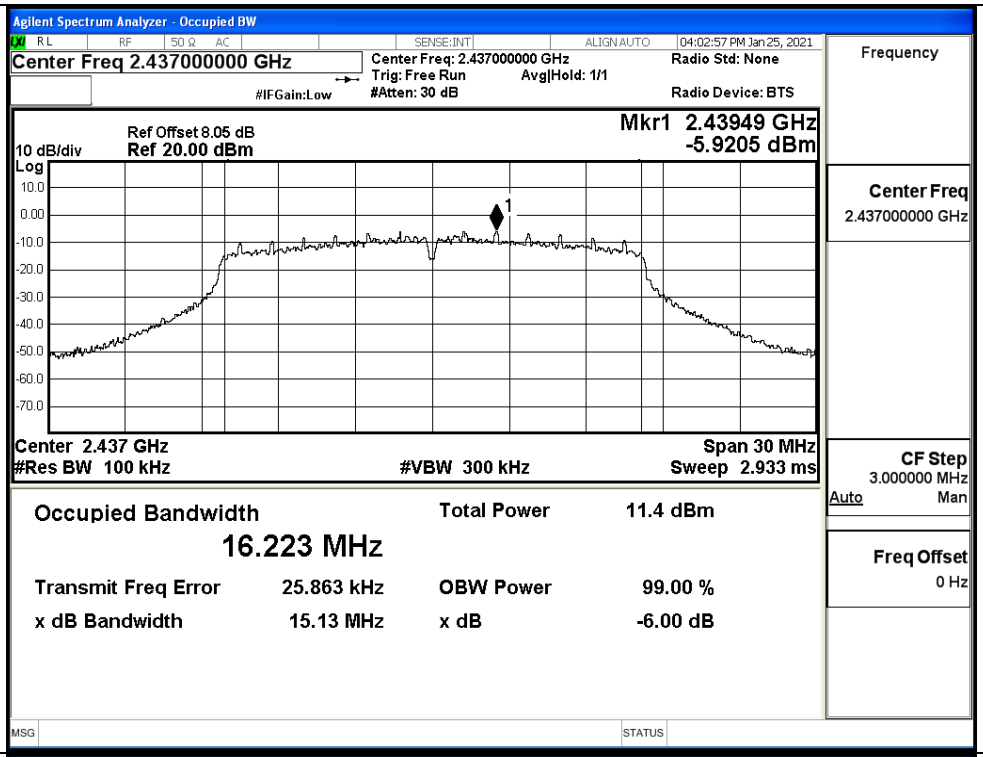
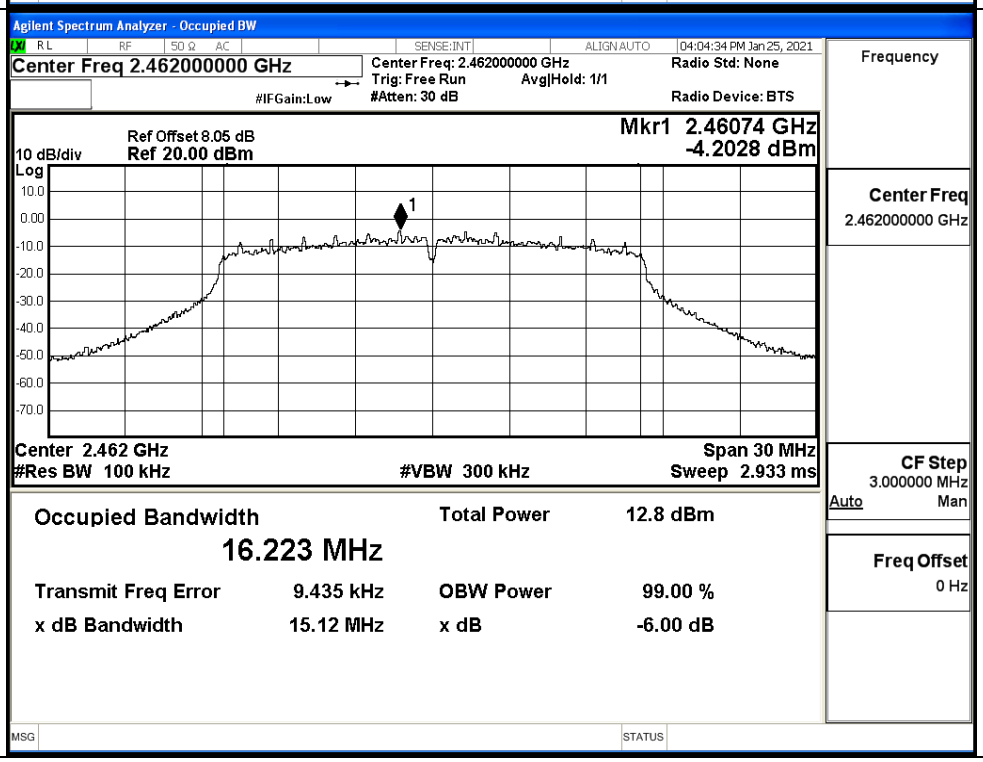


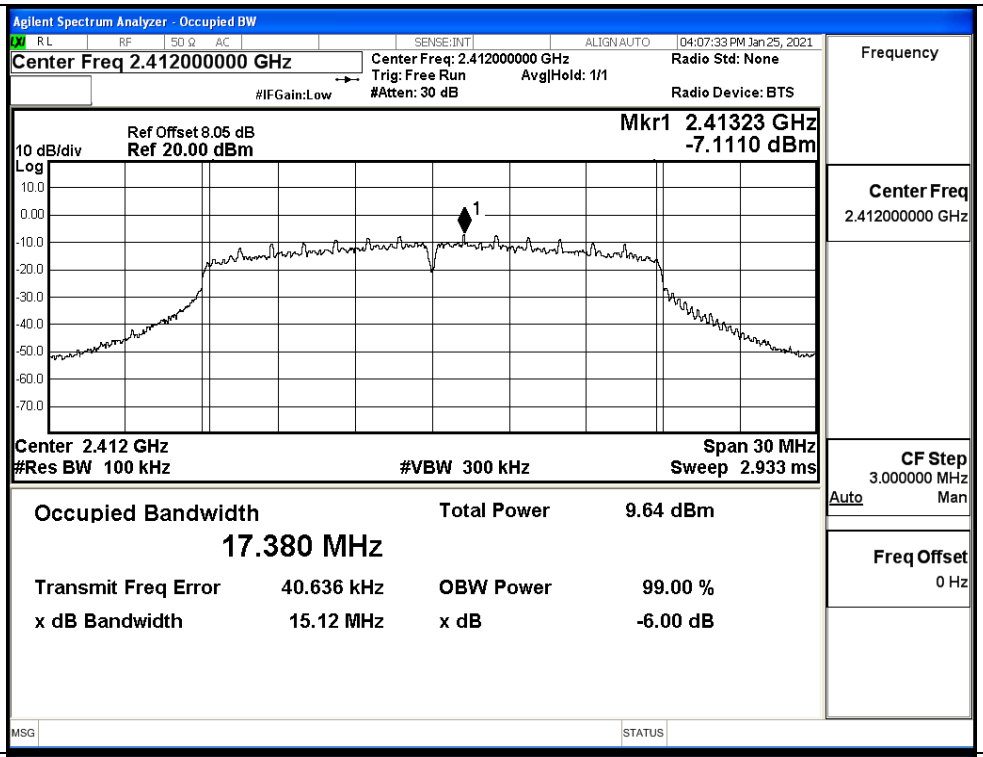
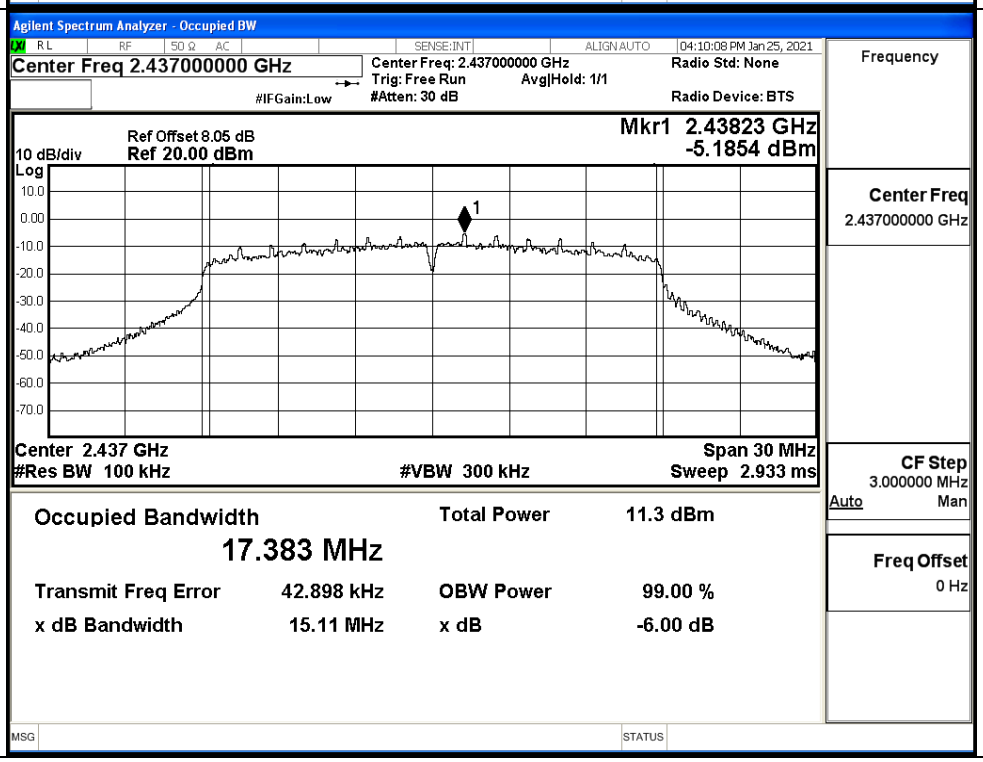
ANT1

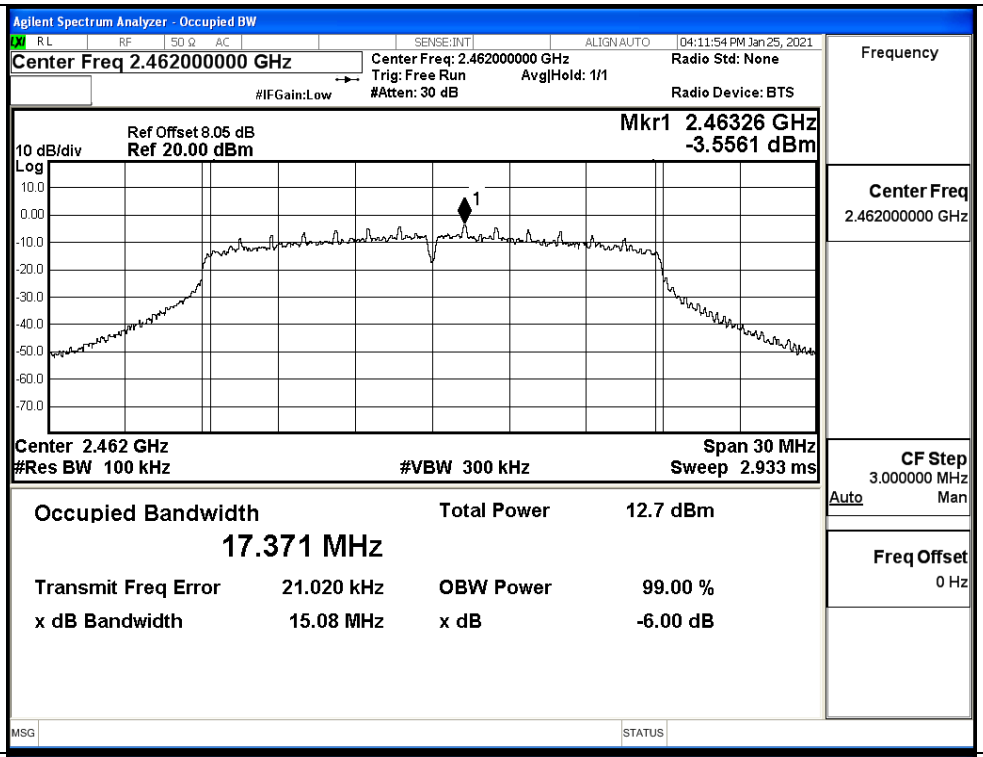
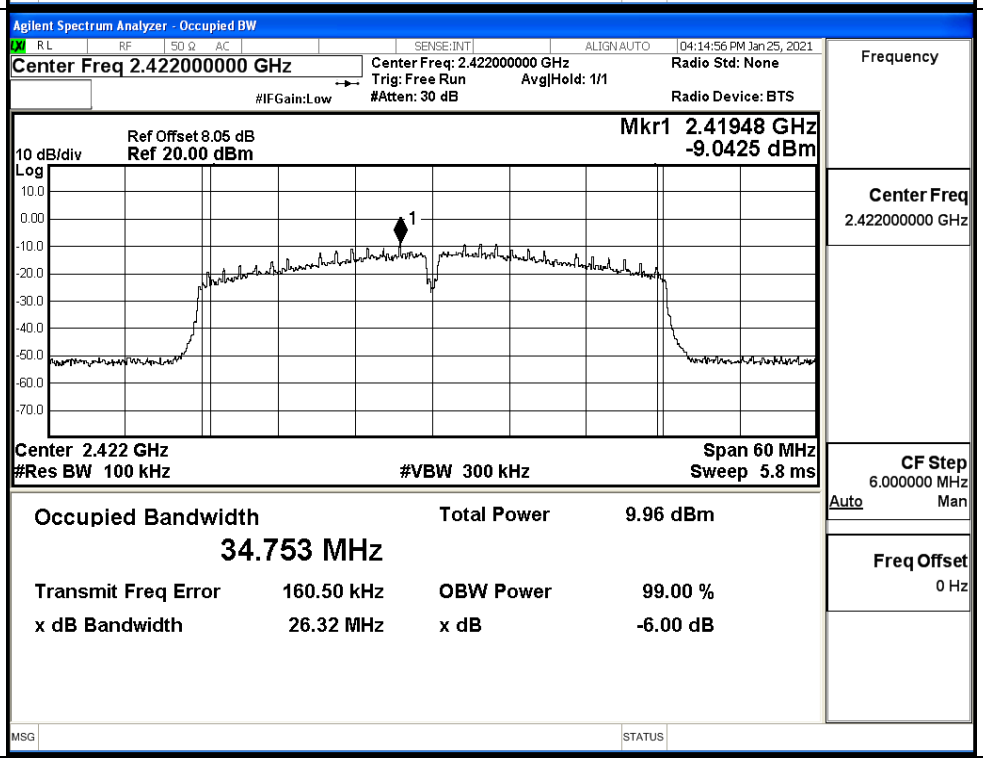
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.12	⩾0.5	PASS
	MCH	10.11	⩾0.5	PASS
	HCH	10.12	⩾0.5	PASS
11G	LCH	15.11	⩾0.5	PASS
	MCH	15.13	⩾0.5	PASS
	HCH	15.12	⩾0.5	PASS
11N20SISO	LCH	15.12	⩾0.5	PASS
	MCH	15.11	⩾0.5	PASS
	HCH	15.08	⩾0.5	PASS
11N40SISO	LCH	26.32	⩾0.5	PASS
	MCH	23.86	⩾0.5	PASS
	HCH	25.07	⩾0.5	PASS

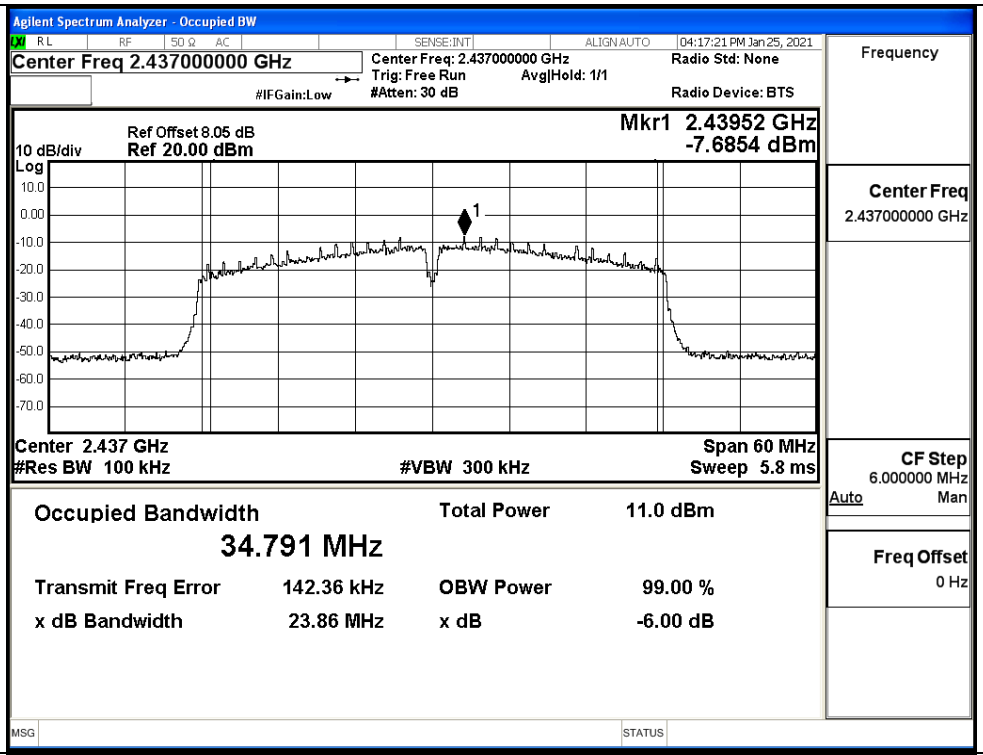
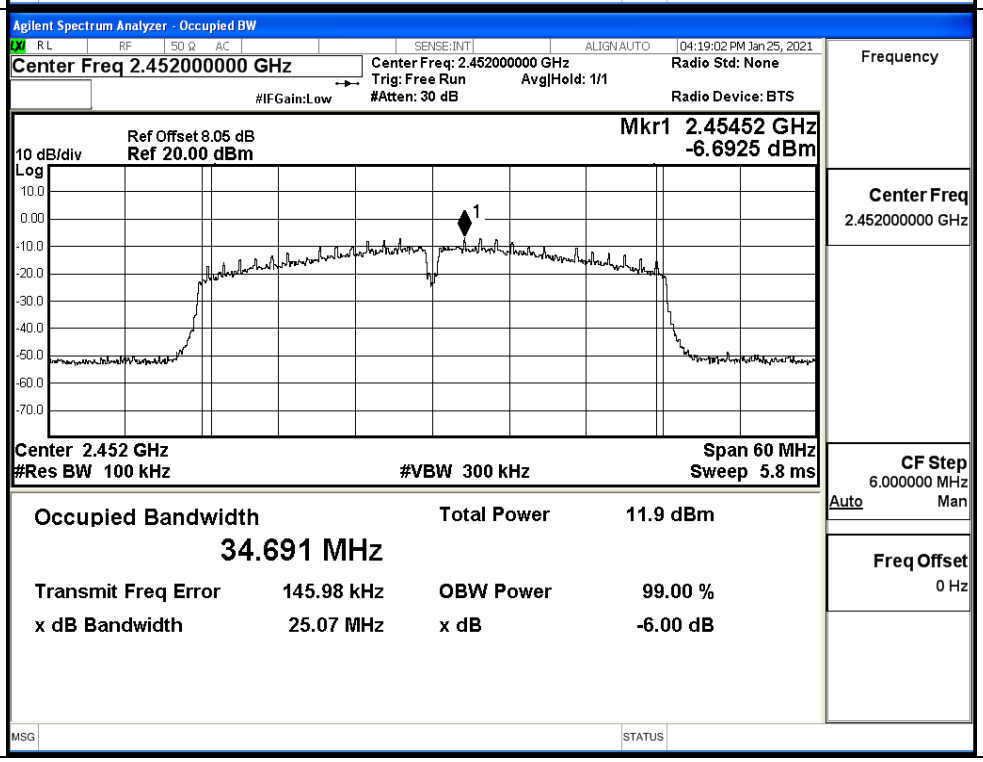
Test Graphs		
11B/LCH		
11B/MCH		

11B/HCH		
11G/LCH		

11G/MCH	
11G/HCH	

11N20SISO/LCH		
11N20SISO/MCH		

11N20SISO/HCH	
11N40SISO/LCH	

11N40SISO/MCH	
11N40SISO/HCH	

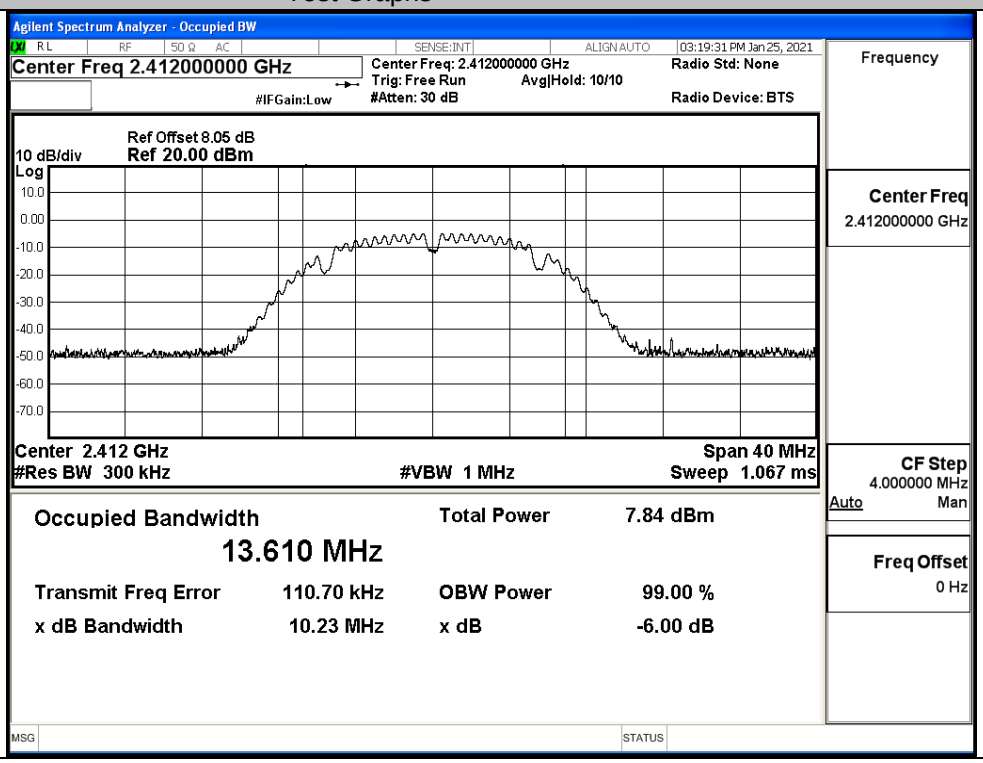
A.5 Occupied Bandwidth

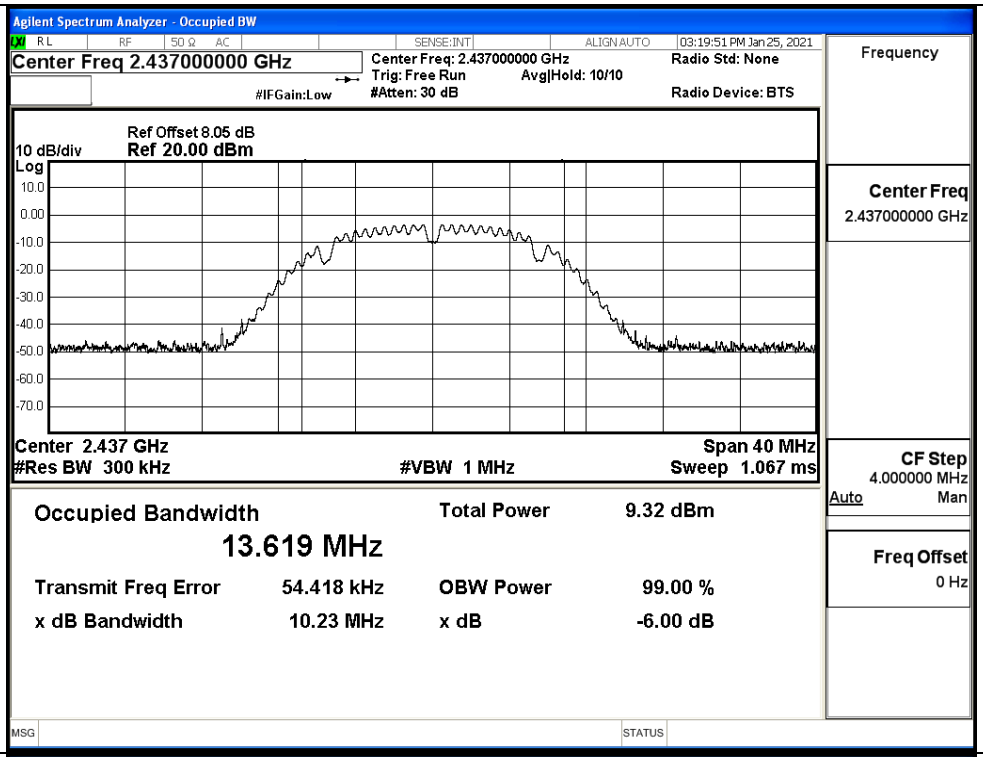
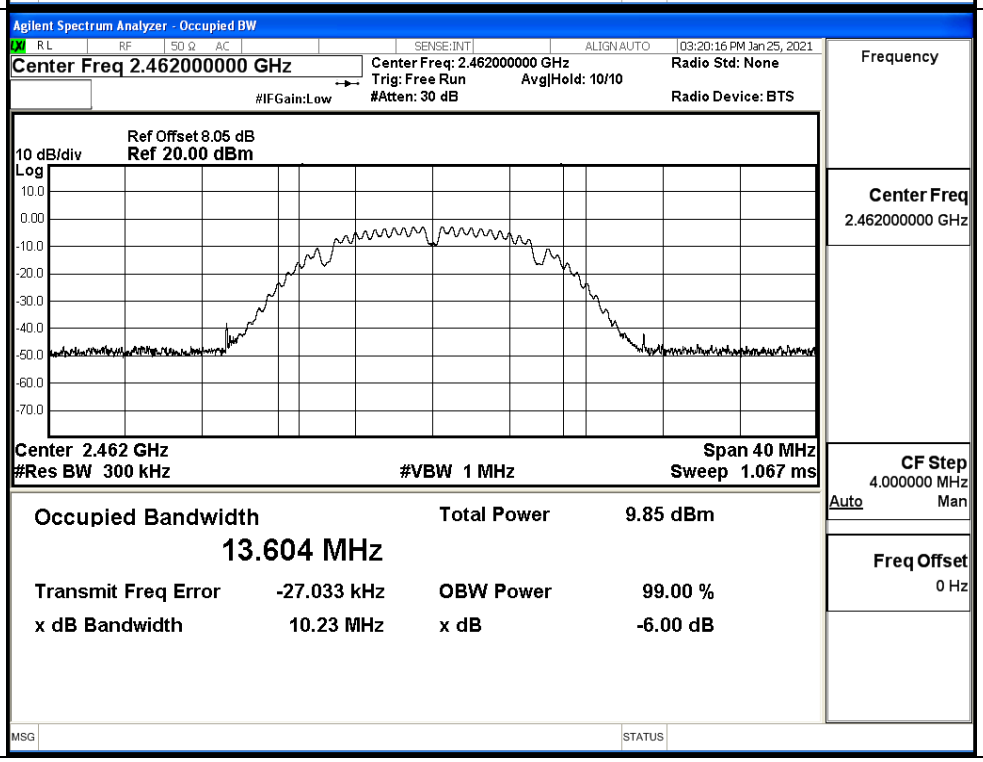
ANT0

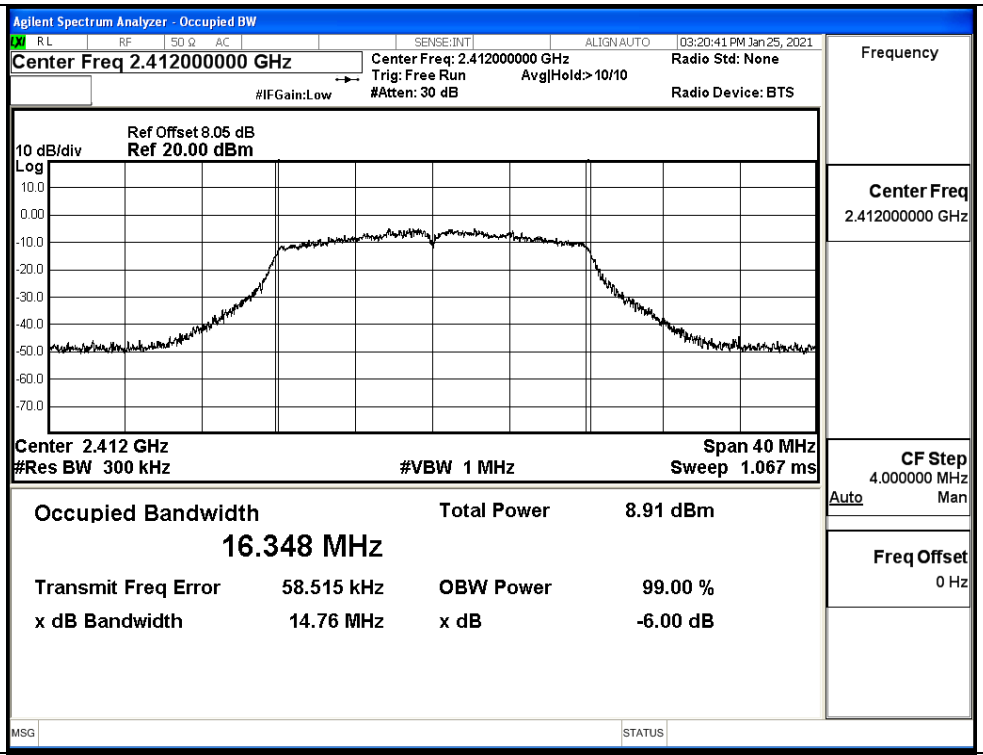
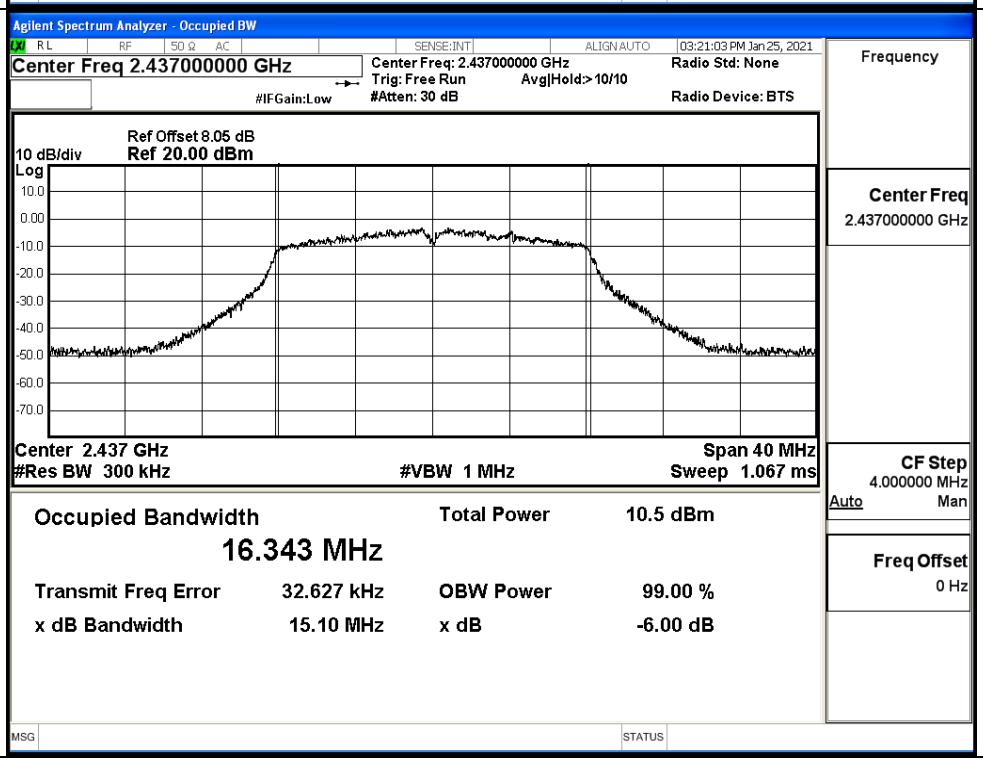
Mode	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	13.610	⩾0.5	PASS
	MCH	13.619	⩾0.5	PASS
	HCH	13.604	⩾0.5	PASS
11G	LCH	16.348	⩾0.5	PASS
	MCH	16.343	⩾0.5	PASS
	HCH	16.342	⩾0.5	PASS
11N20SISO	LCH	17.451	⩾0.5	PASS
	MCH	17.478	⩾0.5	PASS
	HCH	17.486	⩾0.5	PASS
11N40SISO	LCH	34.504	⩾0.5	PASS
	MCH	34.551	⩾0.5	PASS
	HCH	34.507	⩾0.5	PASS

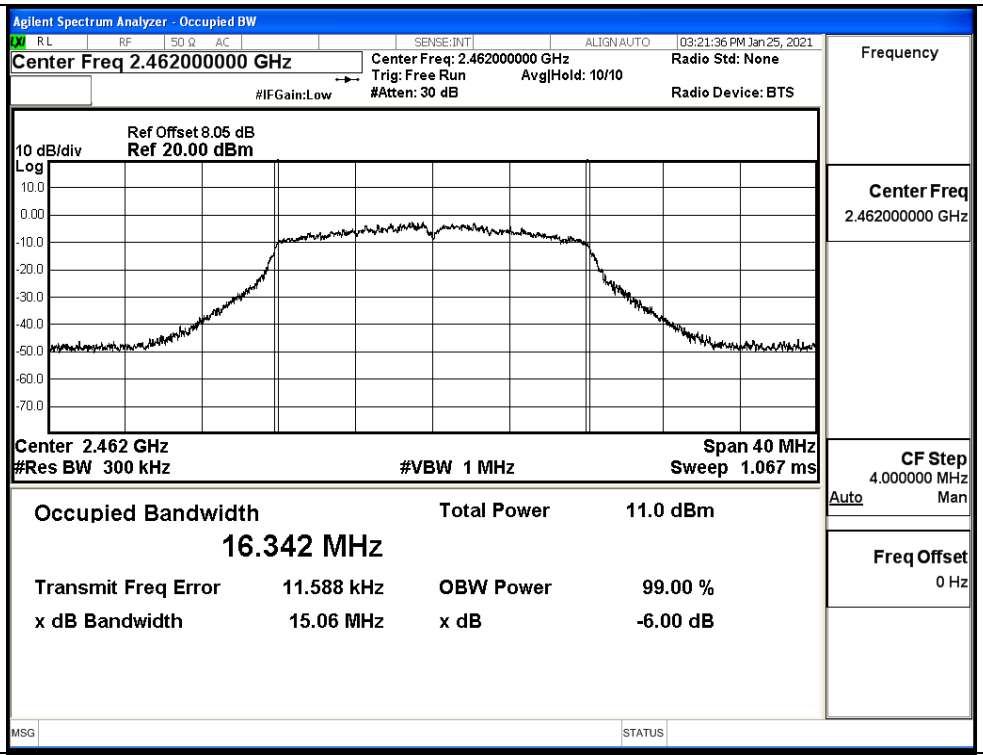
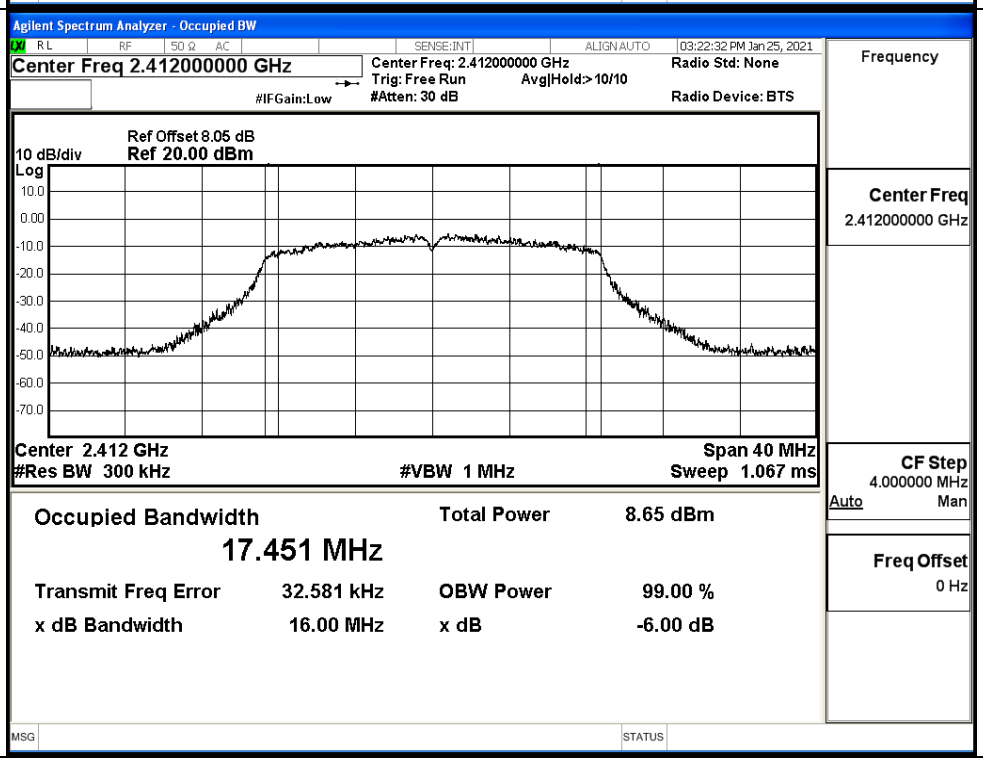
Test Graphs

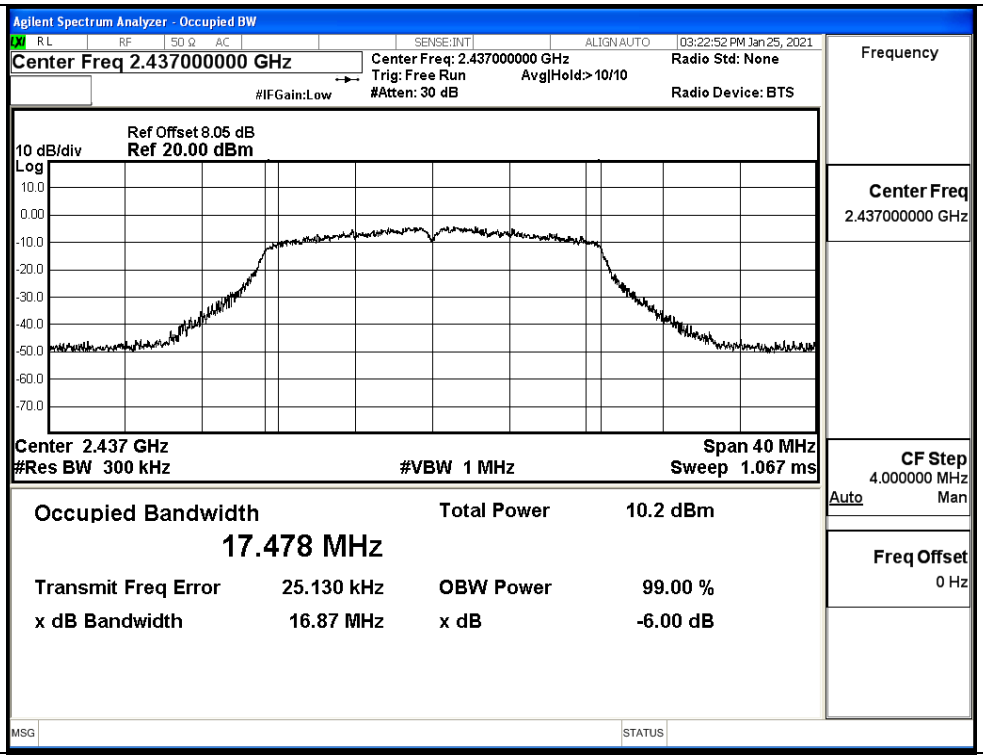
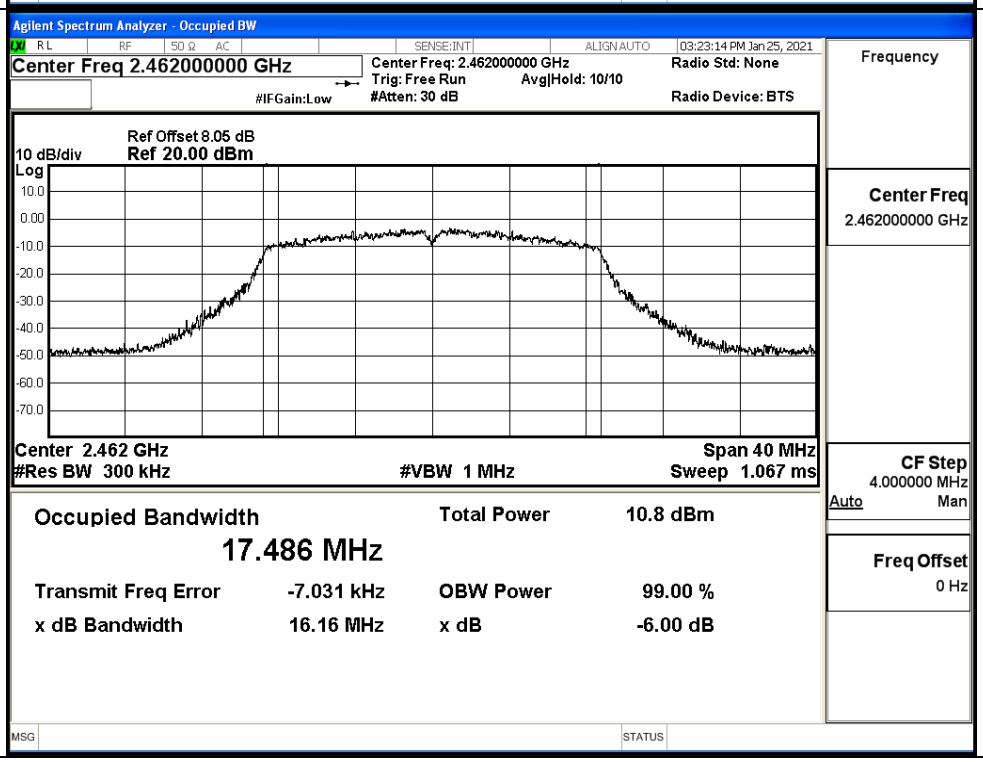
11B/LCH

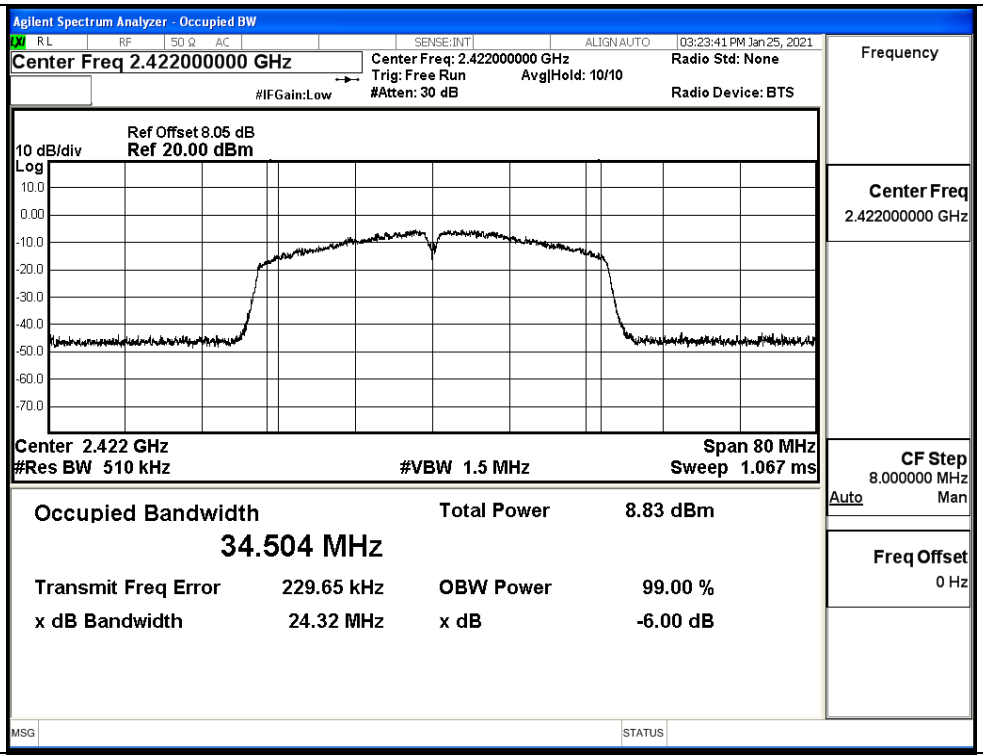
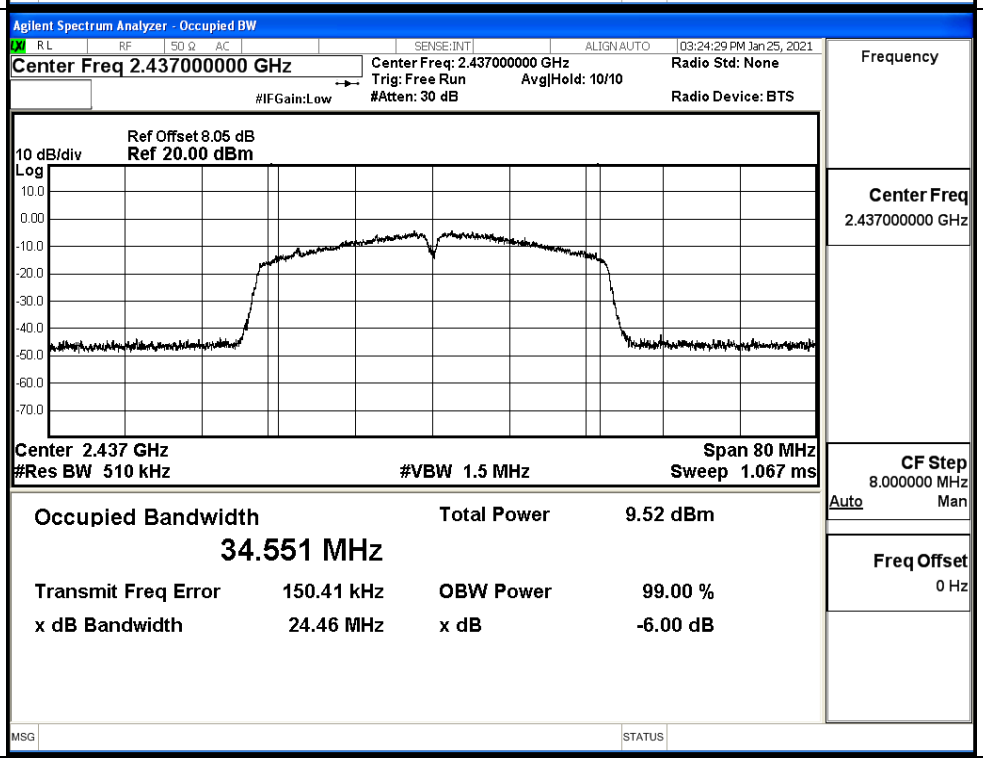


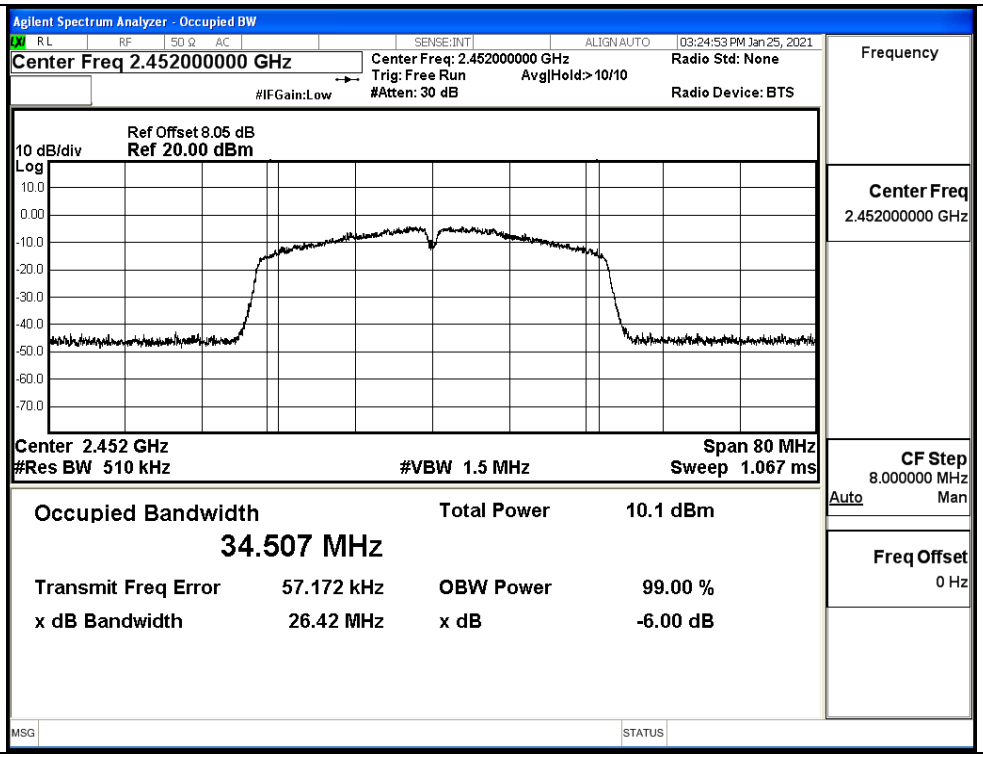
11B/MCH	
11B/HCH	

11G/LCH		
11G/MCH		

11G/HCH	
11N20SISO/LCH	

11N20SISO/MCH	
11N20SISO/HCH	

11N40SISO/LCH		
11N40SISO/MCH		

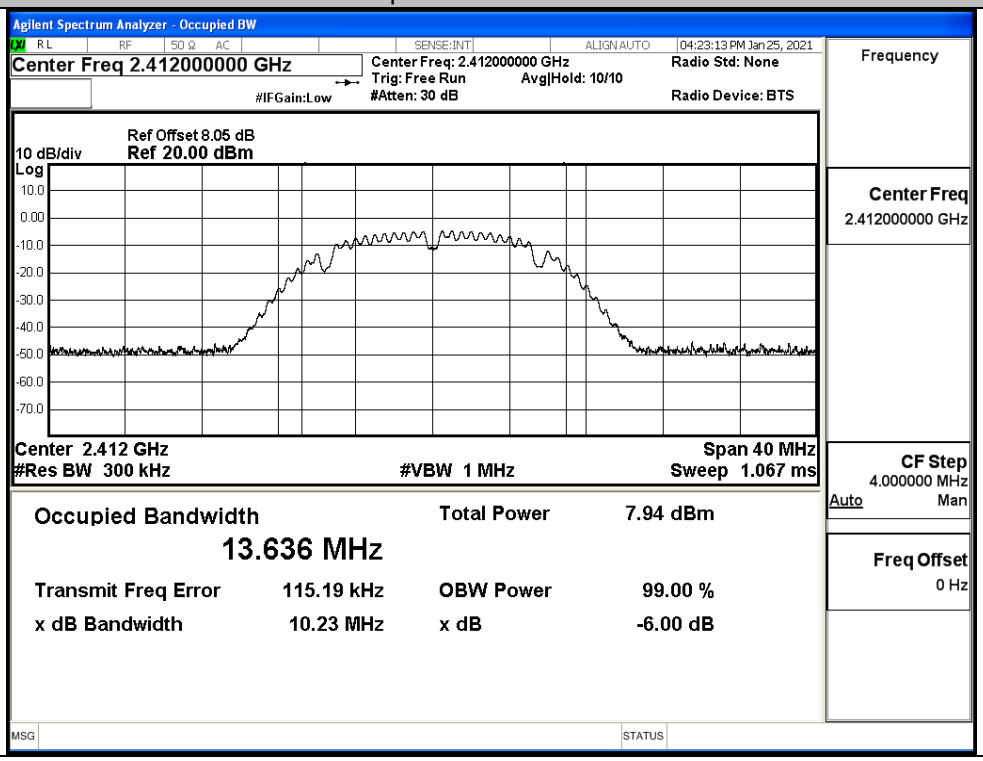
11N40SISO/HCH		

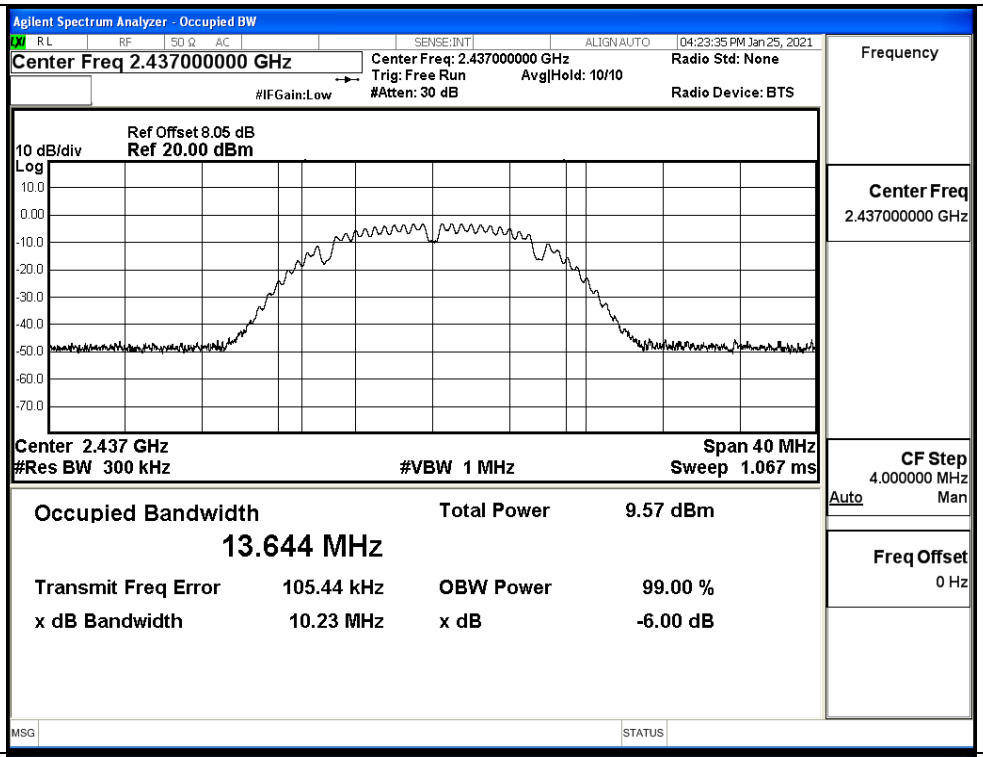
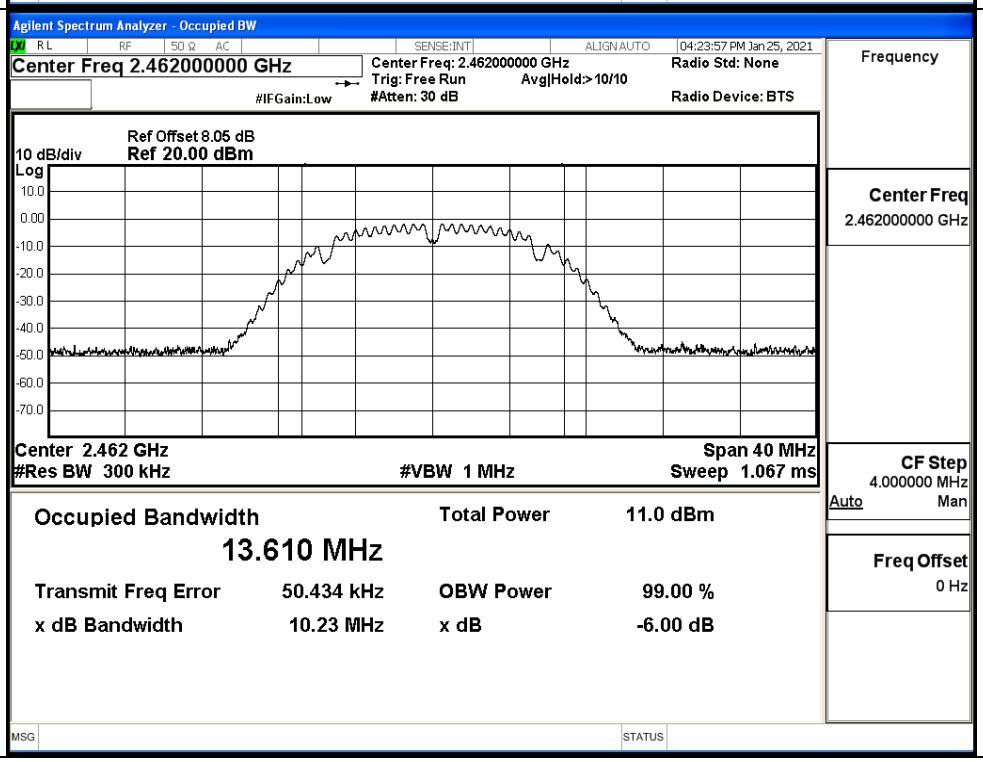
ANT1

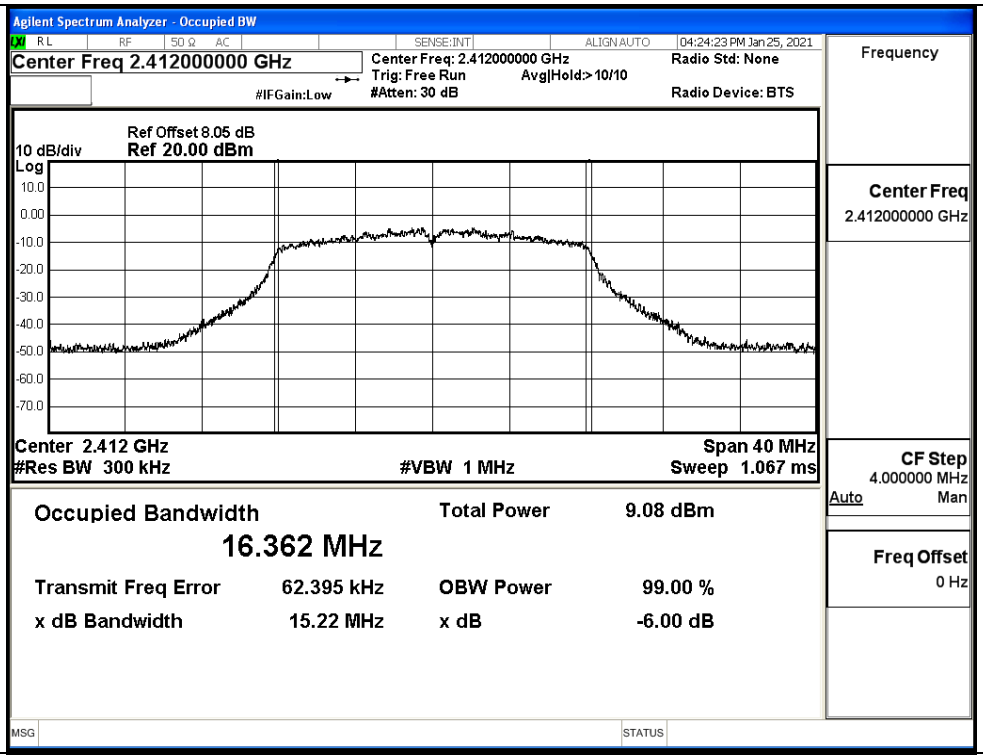
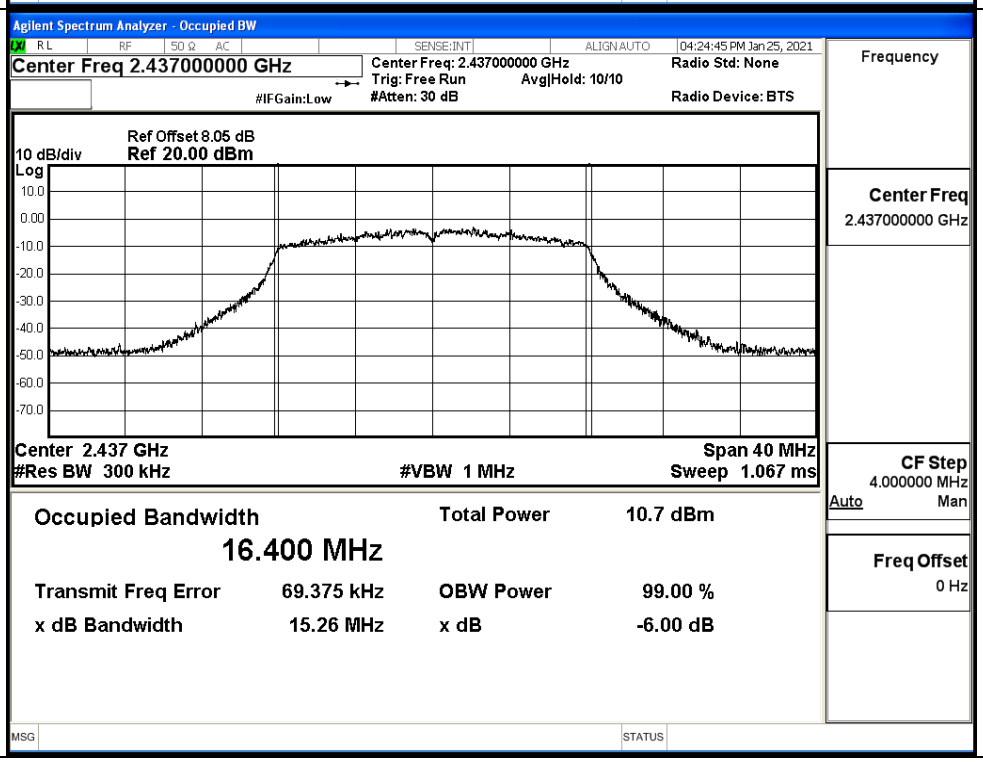
Mode	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	13.636	⩾0.5	PASS
	MCH	13.644	⩾0.5	PASS
	HCH	13.610	⩾0.5	PASS
11G	LCH	16.362	⩾0.5	PASS
	MCH	16.400	⩾0.5	PASS
	HCH	16.327	⩾0.5	PASS
11N20SISO	LCH	17.488	⩾0.5	PASS
	MCH	17.508	⩾0.5	PASS
	HCH	17.477	⩾0.5	PASS
11N40SISO	LCH	34.581	⩾0.5	PASS
	MCH	34.643	⩾0.5	PASS
	HCH	34.536	⩾0.5	PASS

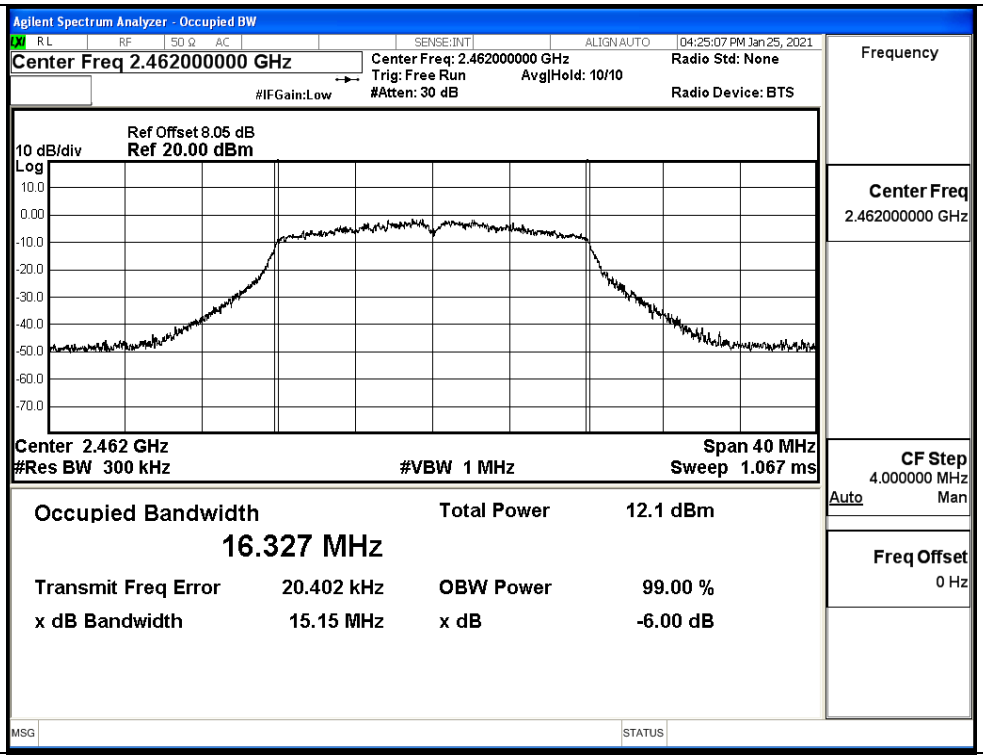
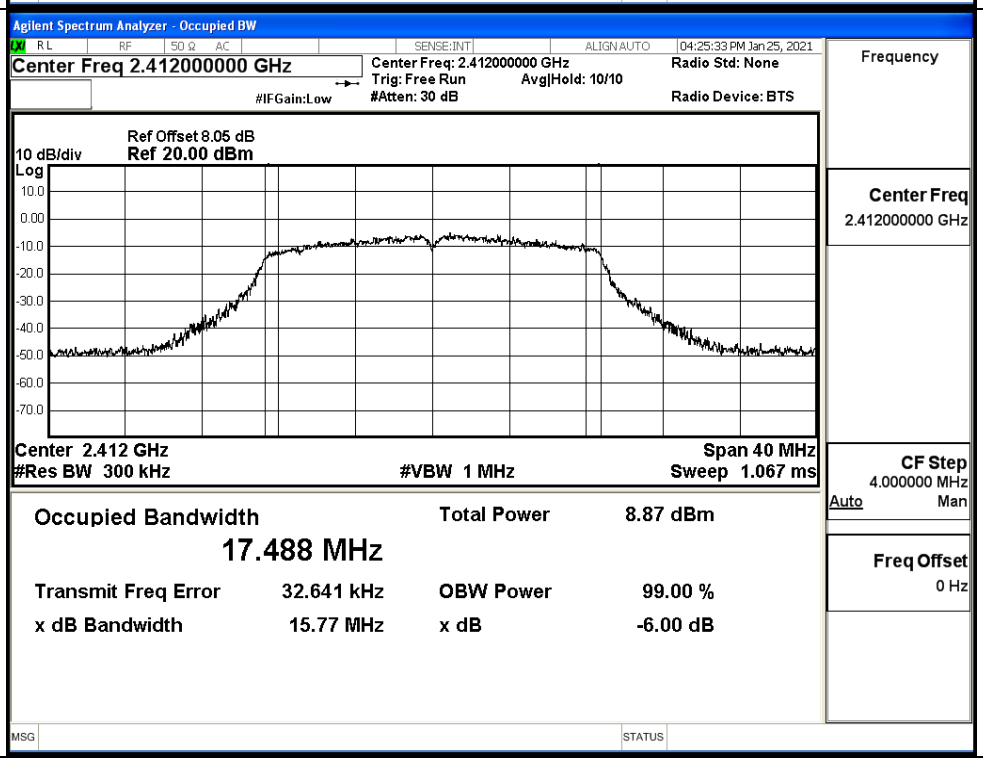
Test Graphs

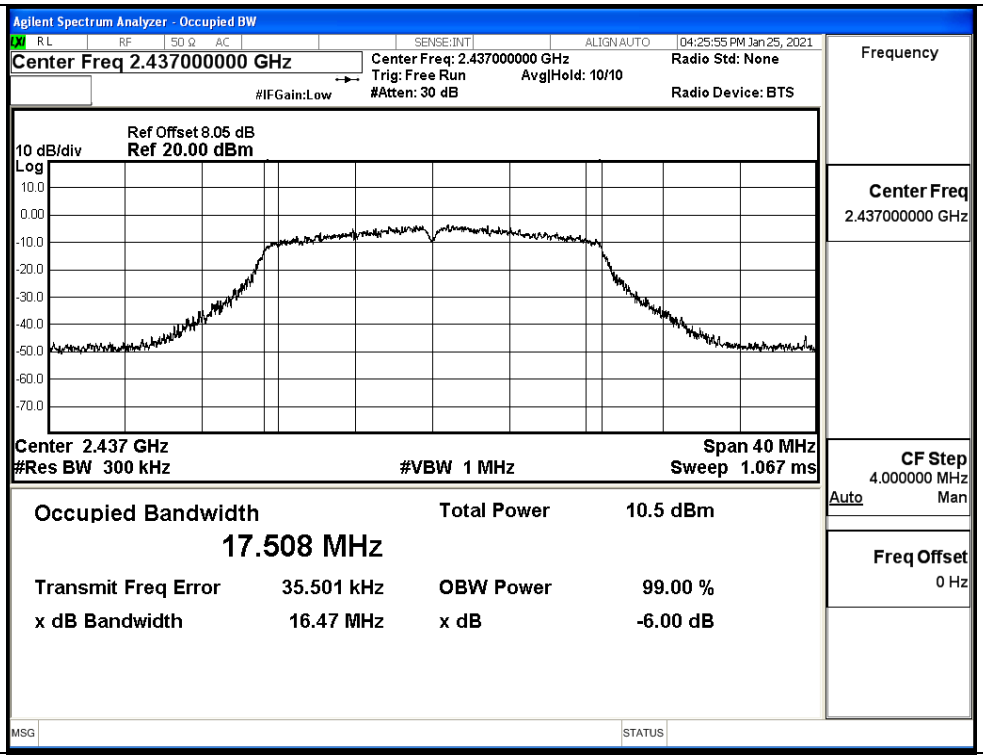
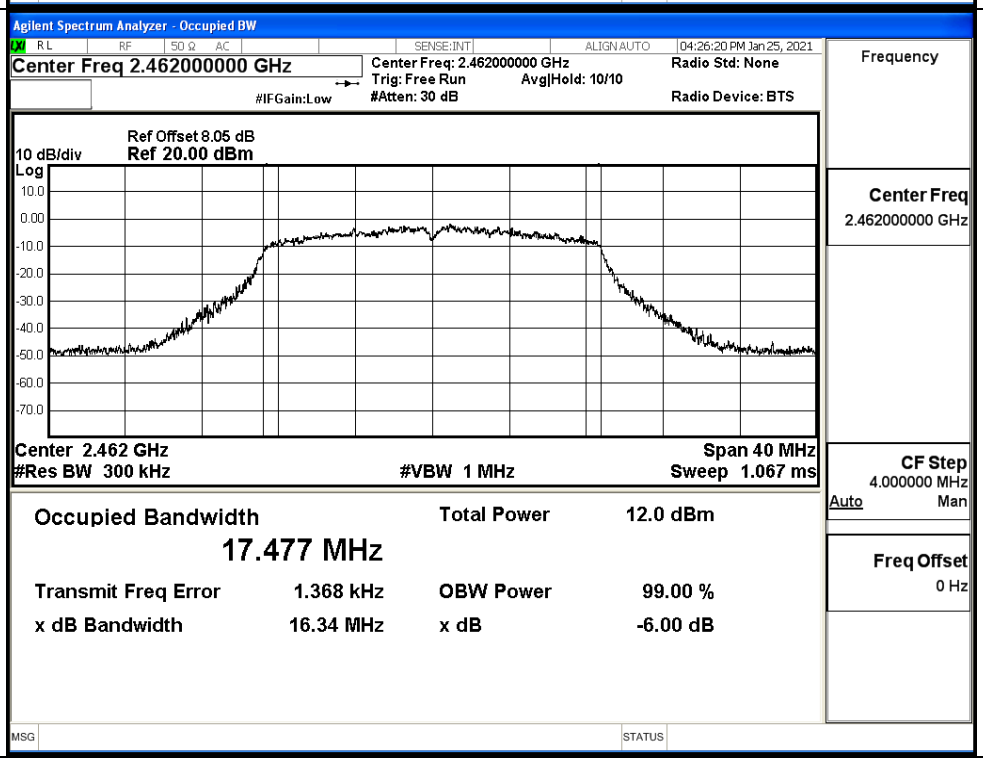
11B/LCH

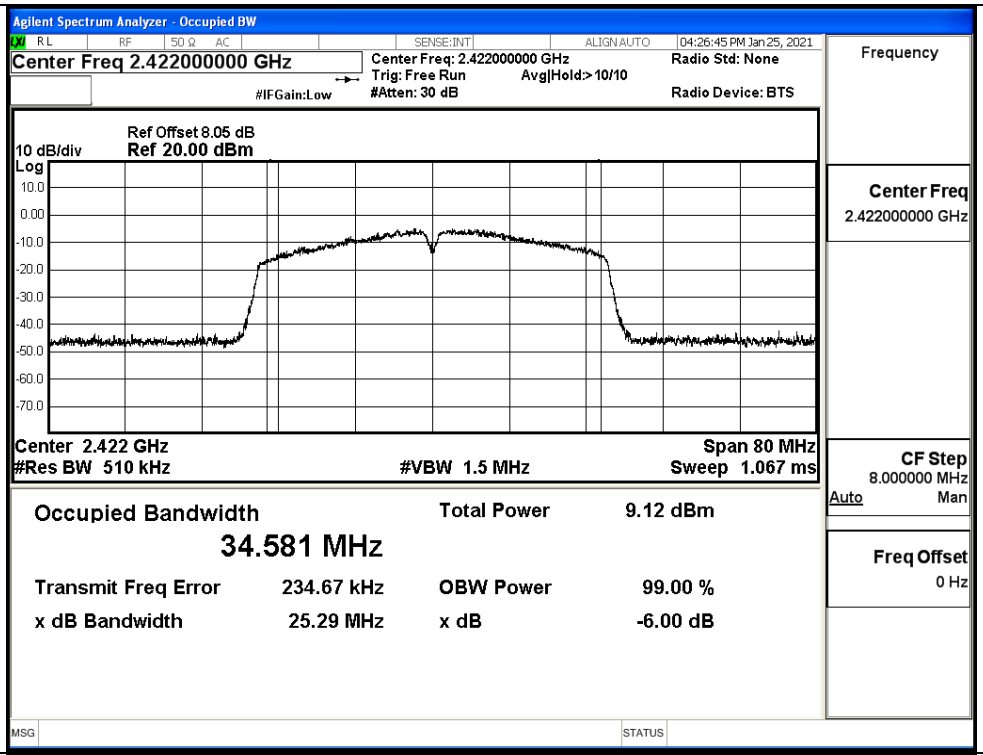
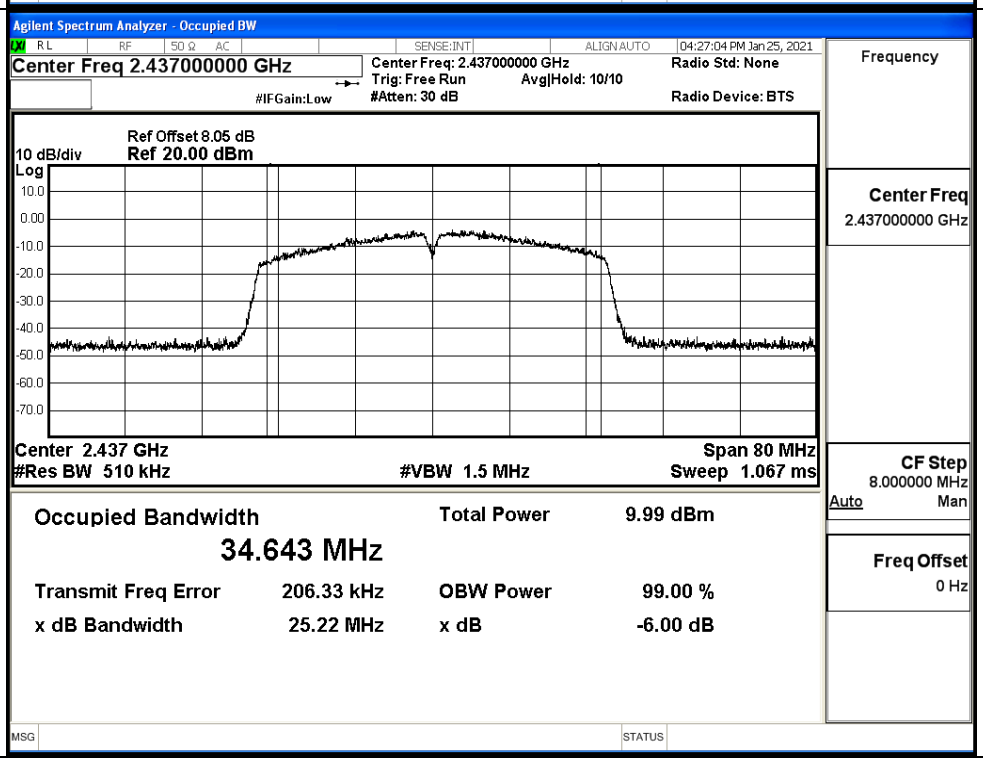


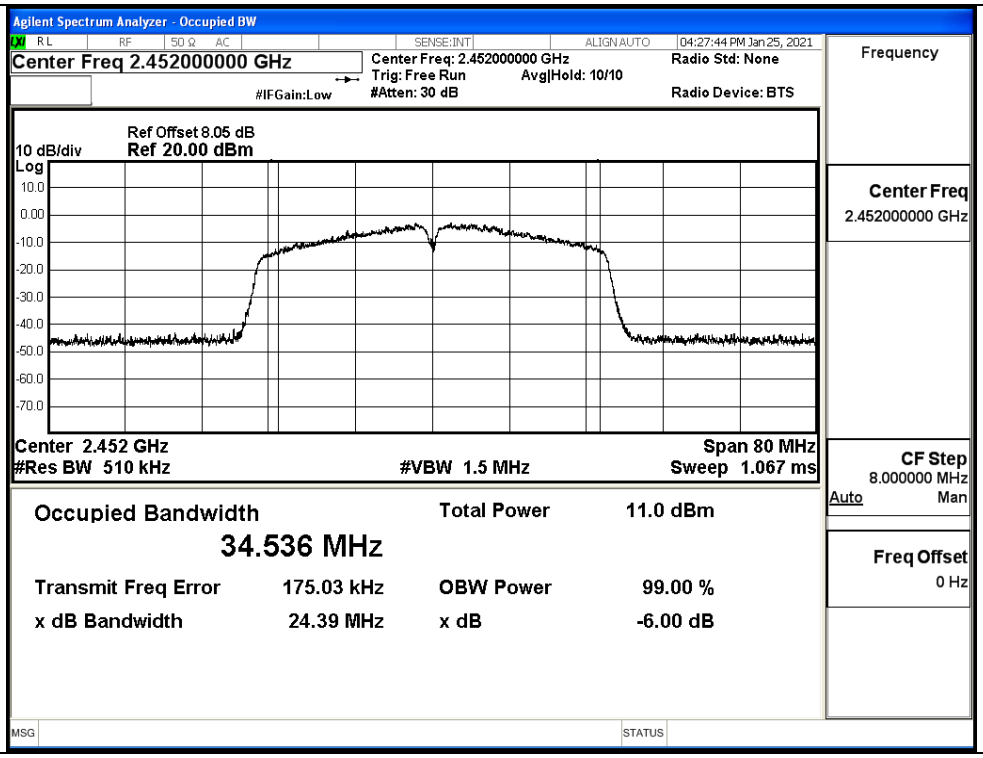
11B/MCH	
11B/HCH	

11G/LCH		
11G/MCH		

11G/HCH	
11N20SISO/LCH	

11N20SISO/MCH	
11N20SISO/HCH	

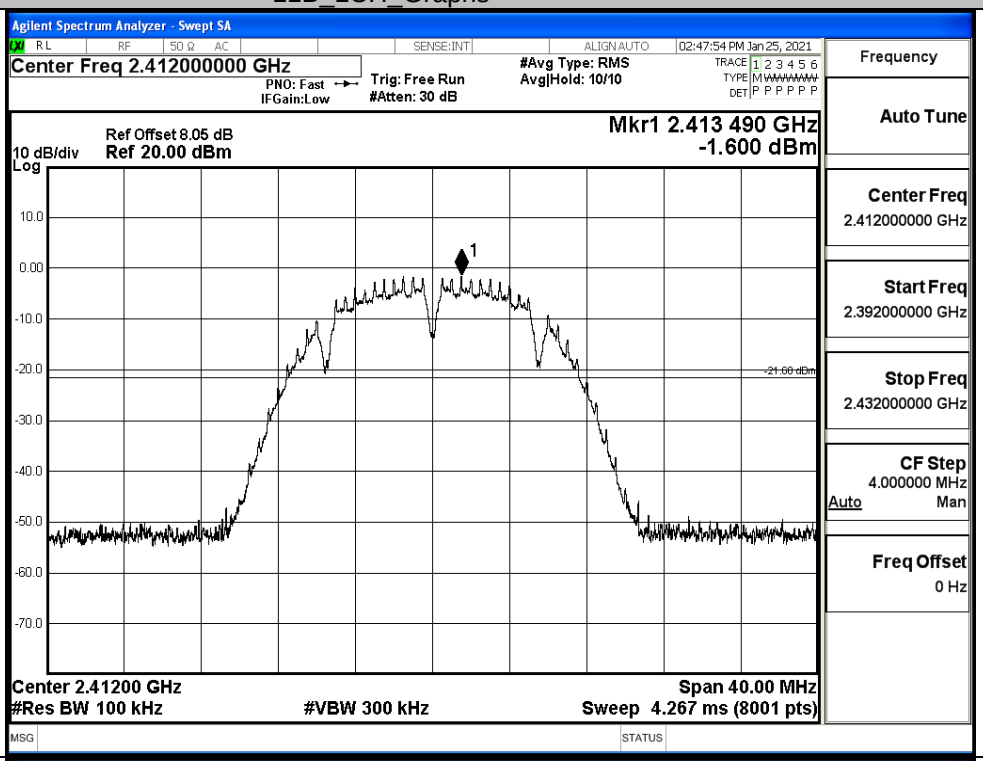
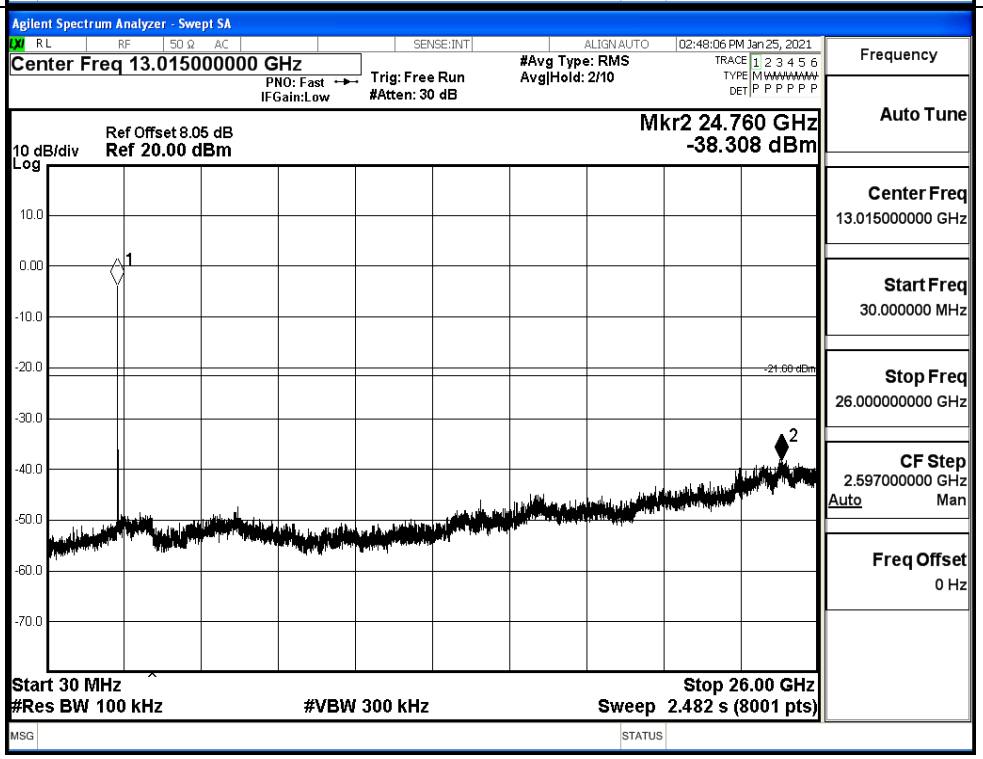
11N40SISO/LCH	
11N40SISO/MCH	

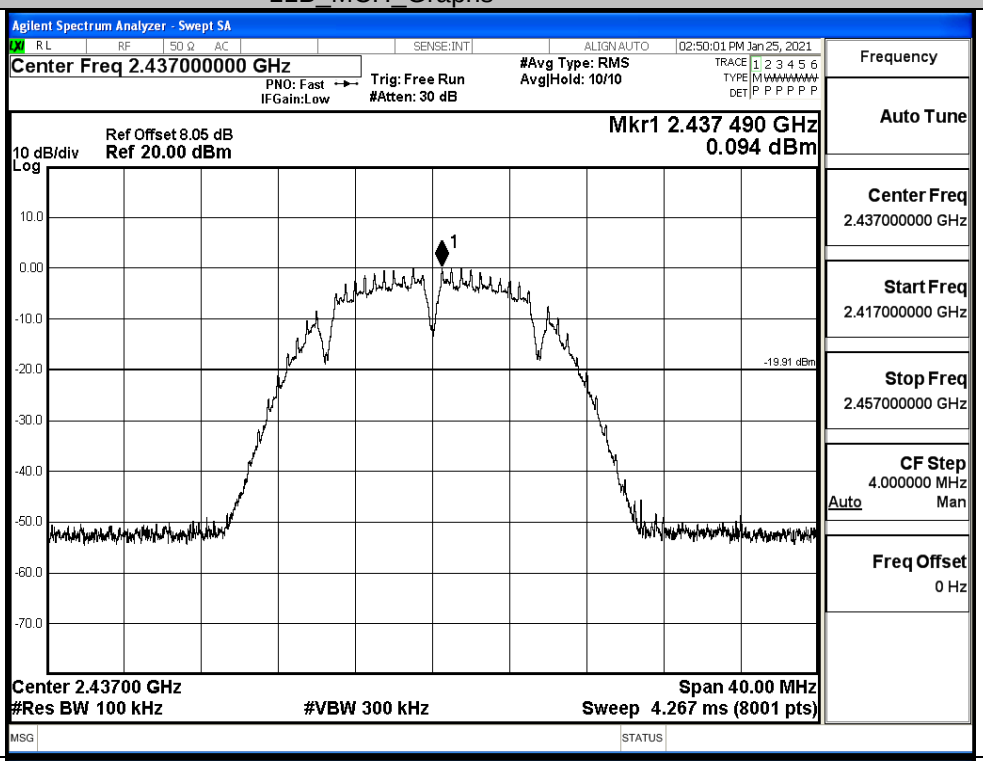
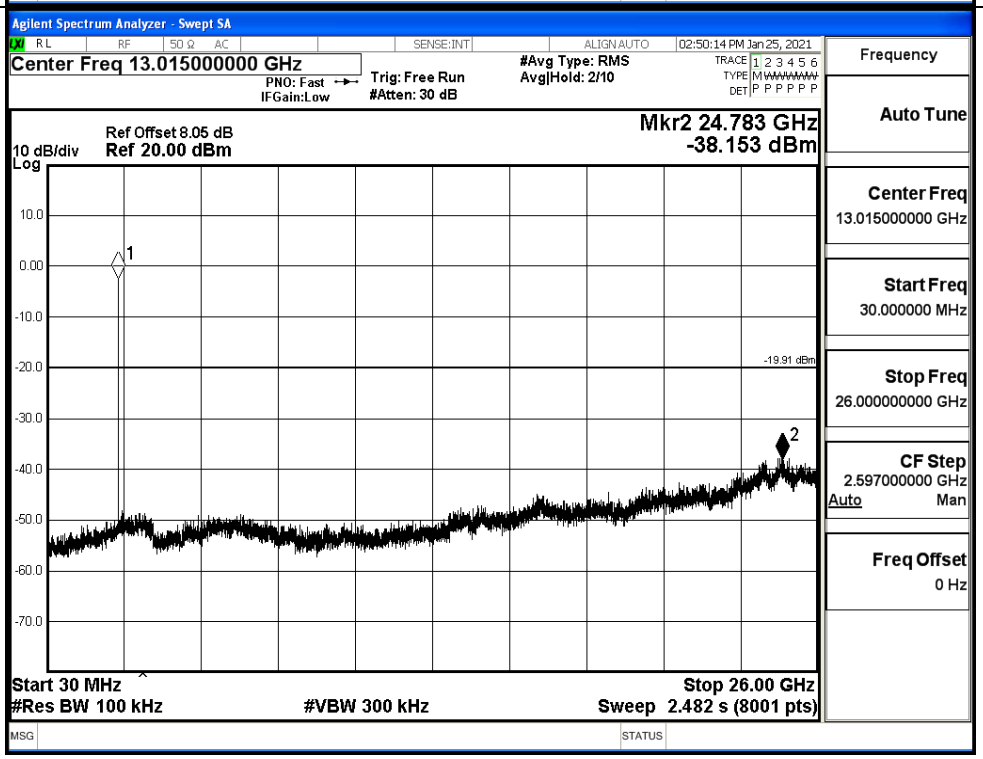
11N40SISO/HCH	

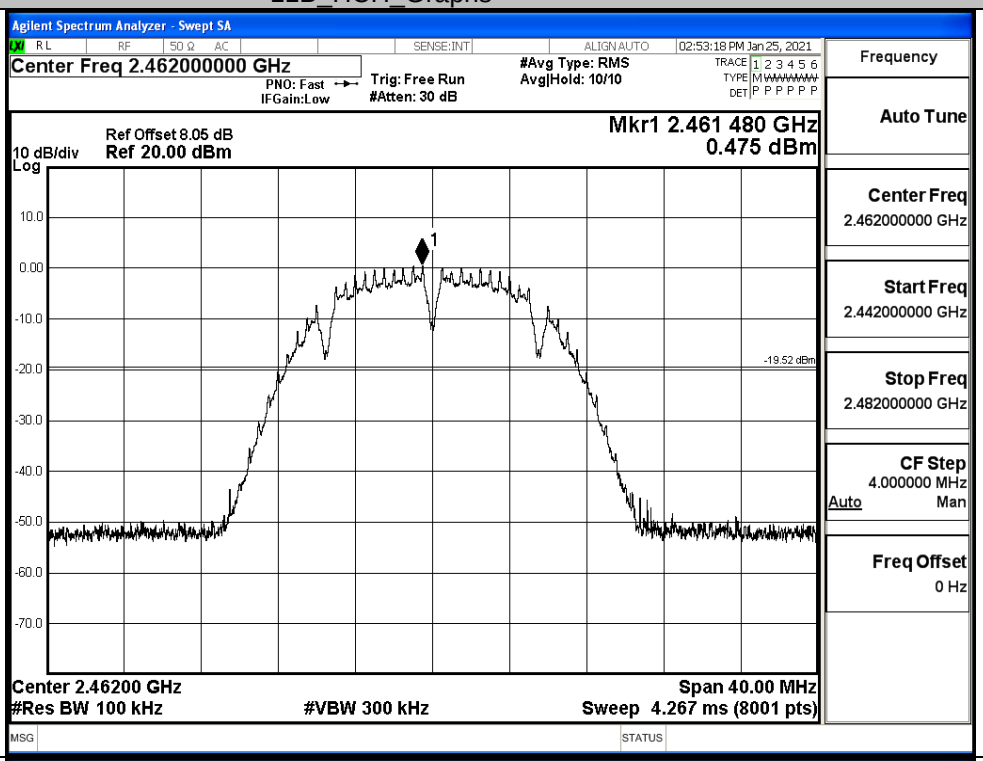
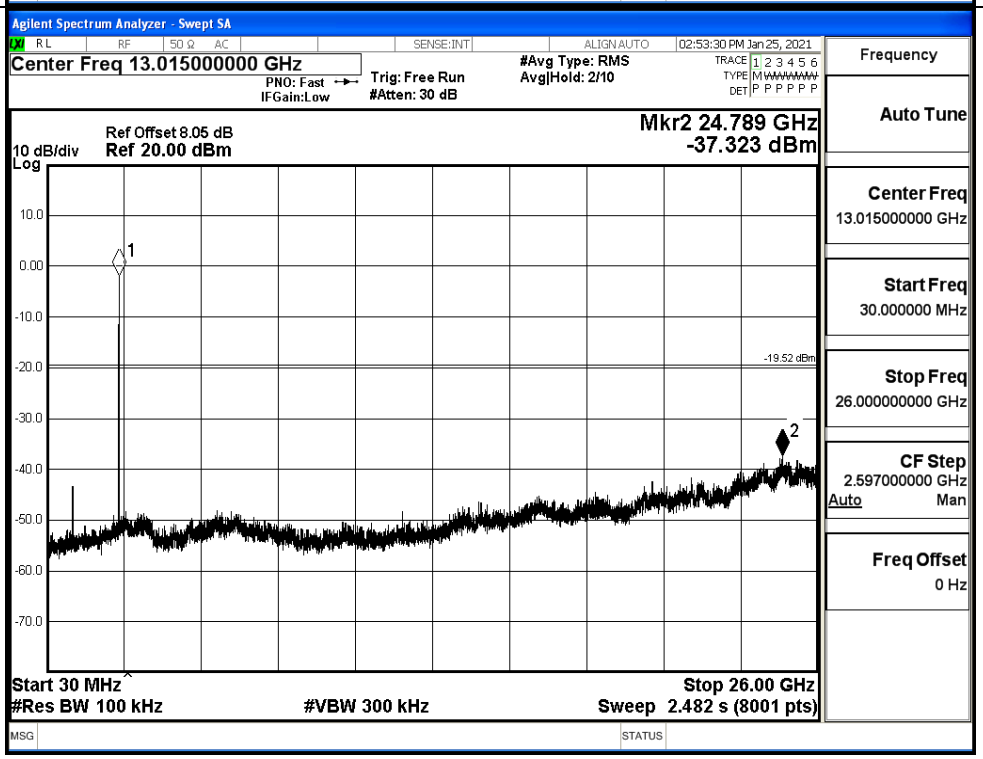
A.6 RF Conducted Spurious Emissions

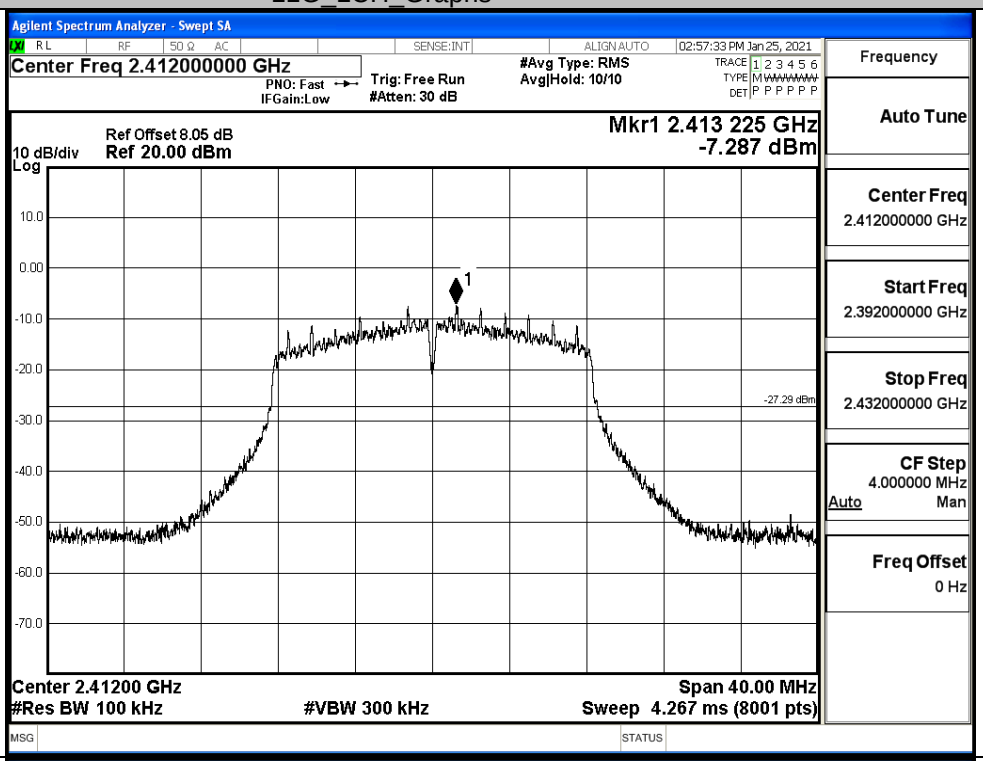
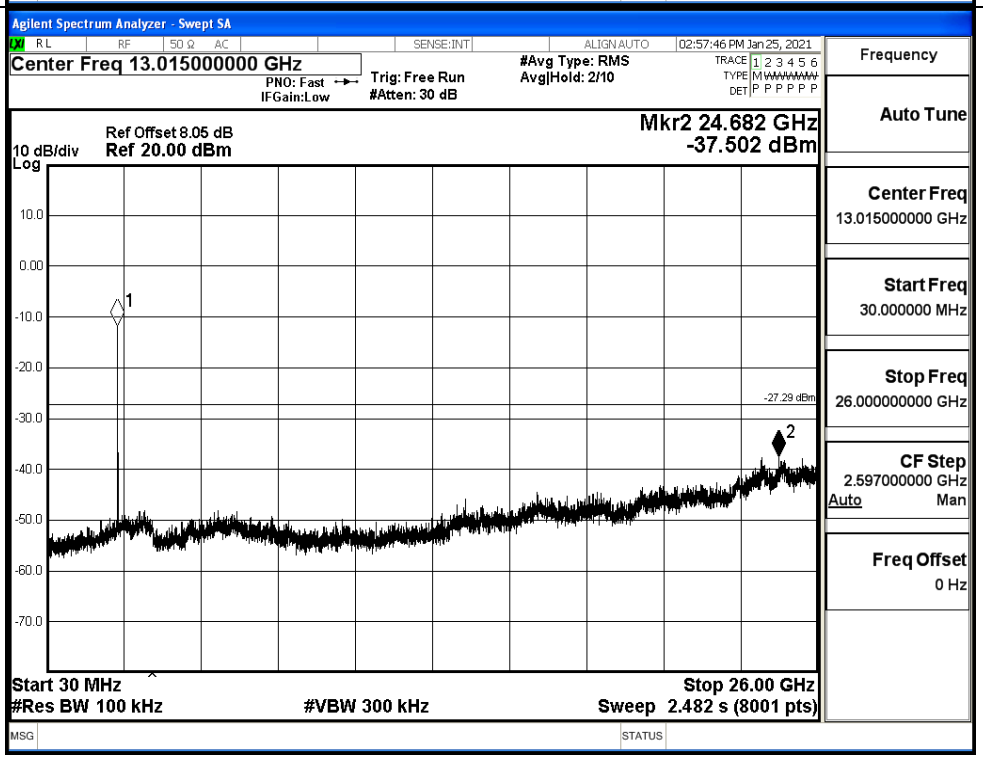
ANT0

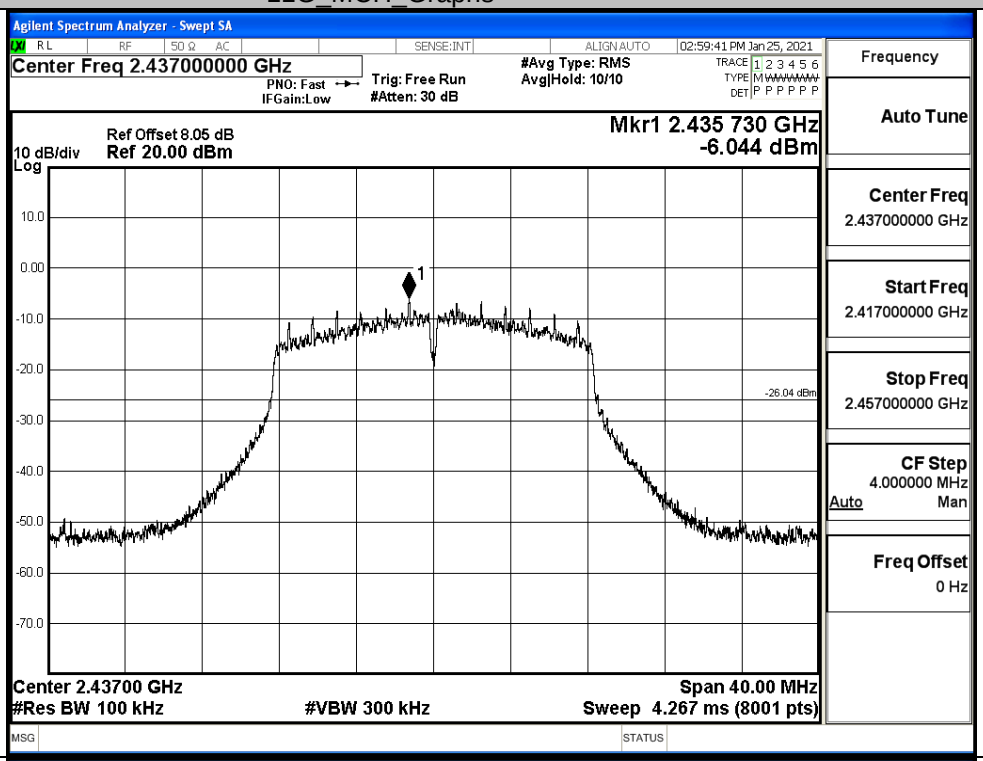
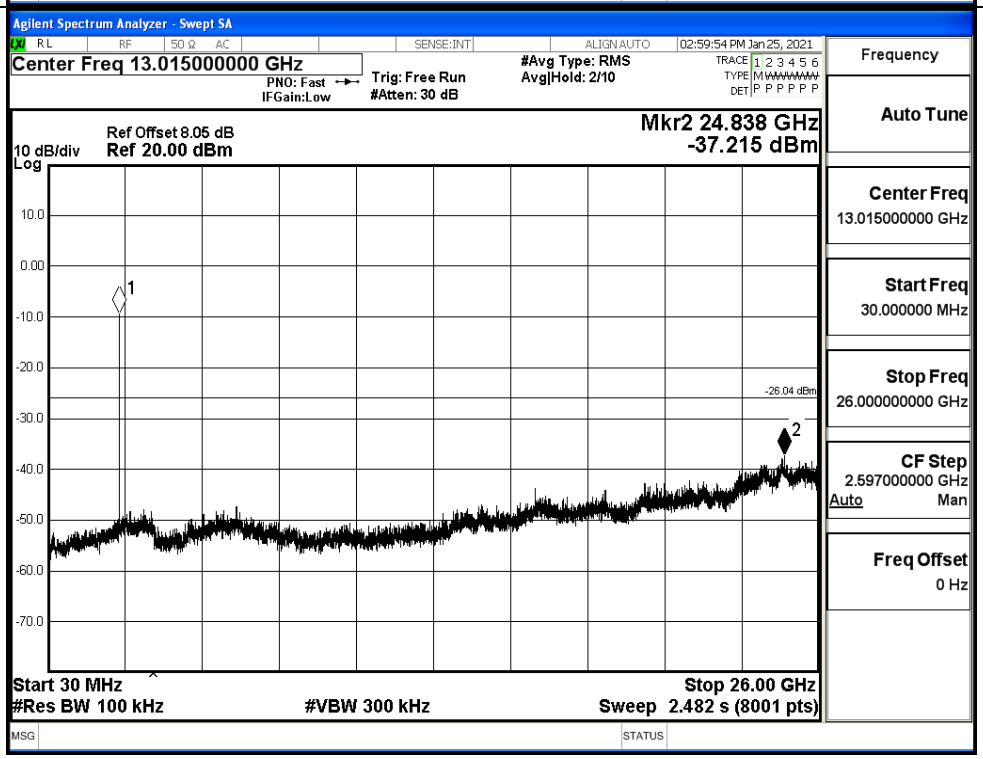
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-1.6	-38.308	-21.600	PASS
	MCH	0.094	-38.153	-19.906	PASS
	HCH	0.475	-37.323	-19.525	PASS
11G	LCH	-7.287	-37.502	-27.287	PASS
	MCH	-6.044	-37.215	-26.044	PASS
	HCH	-5.601	-37.813	-25.601	PASS
11N20 SISO	LCH	-8.025	-37.211	-28.025	PASS
	MCH	-6.37	-37.822	-26.370	PASS
	HCH	-4.936	-38.359	-24.936	PASS
11N40 SISO	LCH	-9.119	-37.110	-29.119	PASS
	MCH	-8.709	-38.538	-28.709	PASS
	HCH	-7.832	-38.404	-27.832	PASS

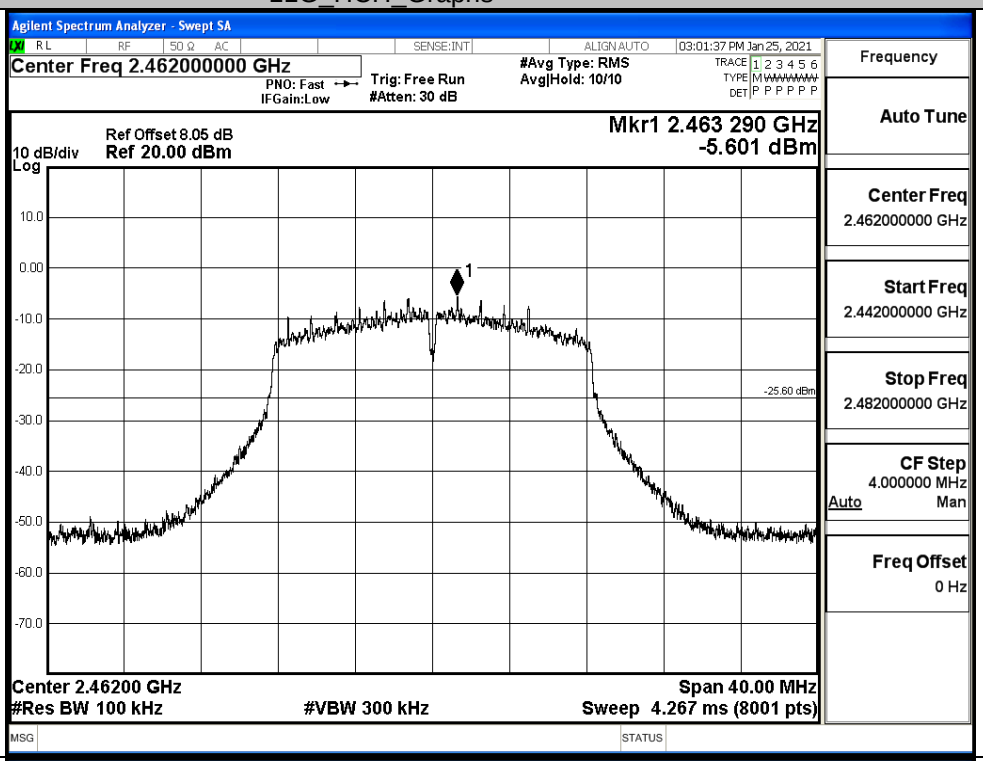
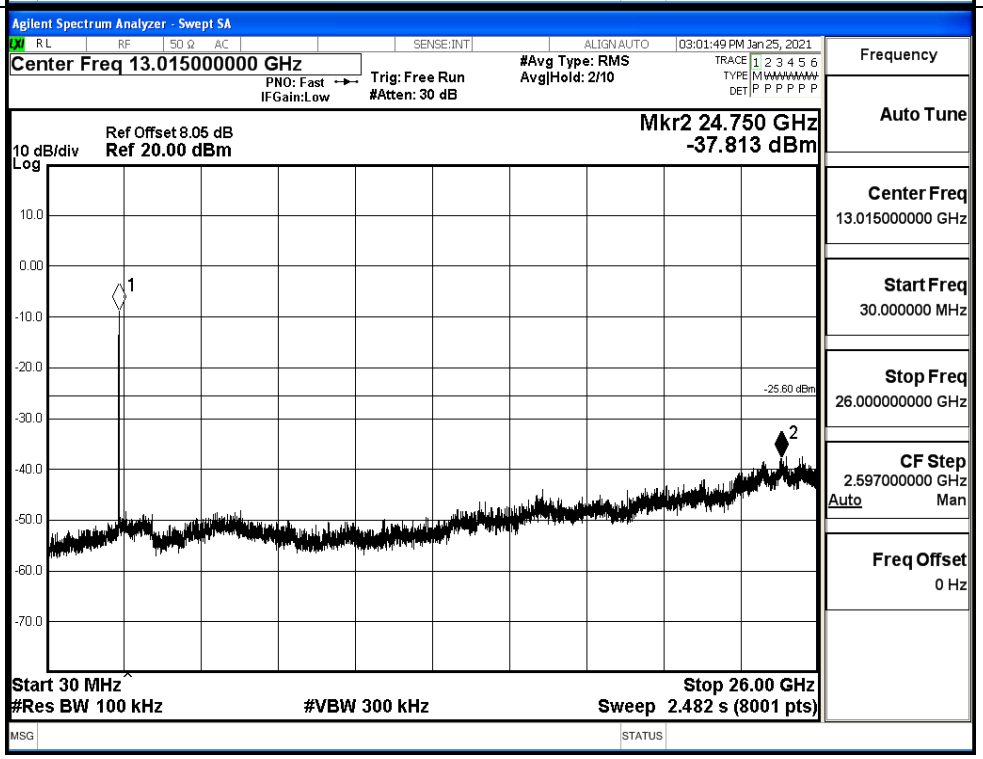
11B_LCH_Graphs		
Pref/11B/LCH		
Puw/11B/LCH		

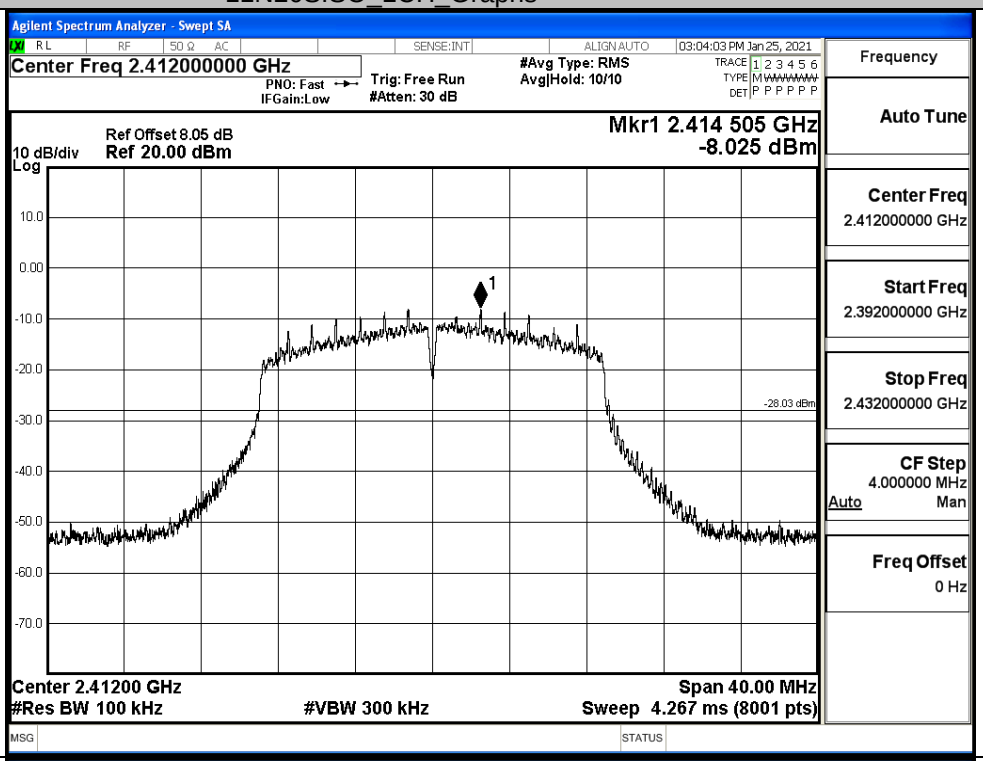
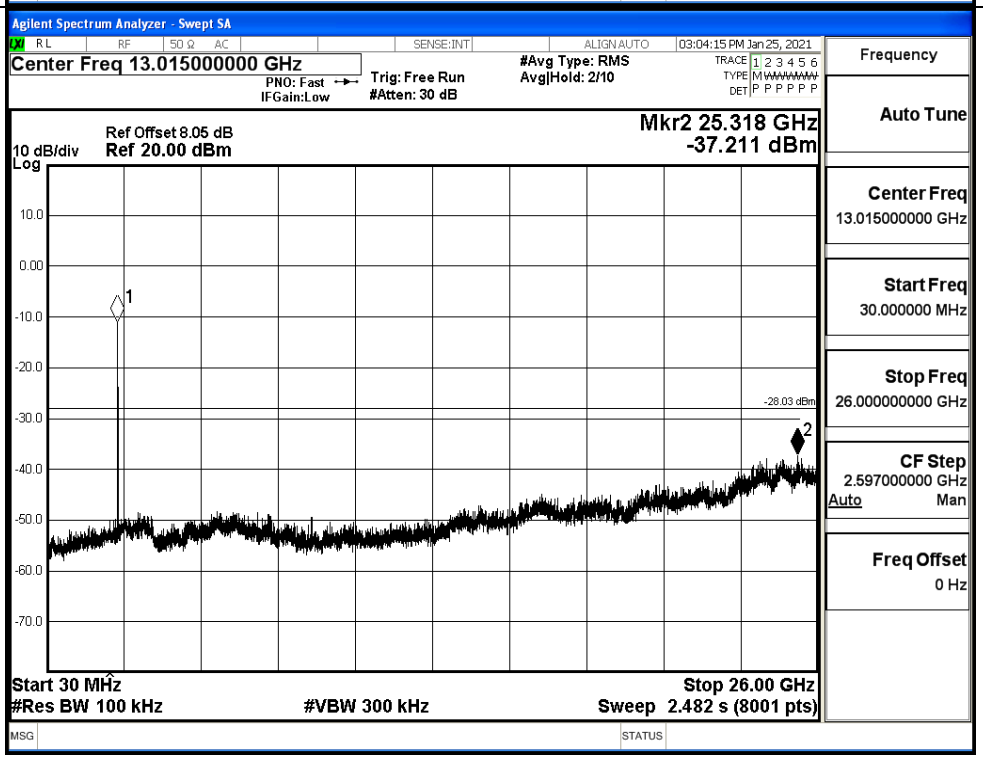
11B_MCH_Graphs		
Pref/11B/MCH		
Puw/11B/MCH		

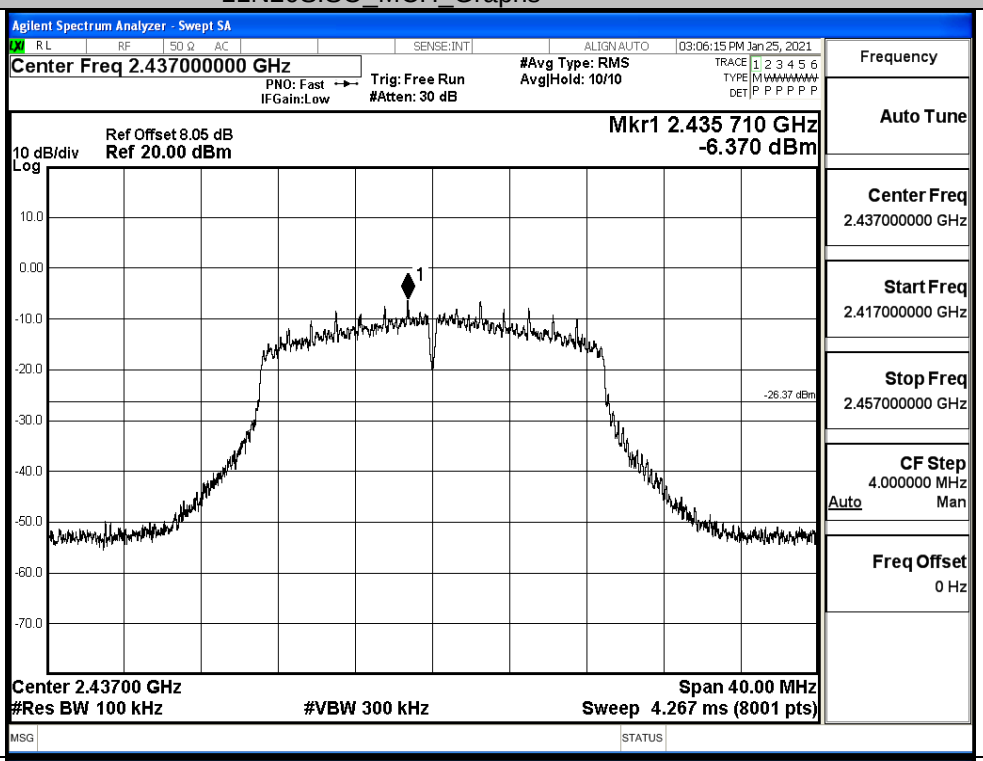
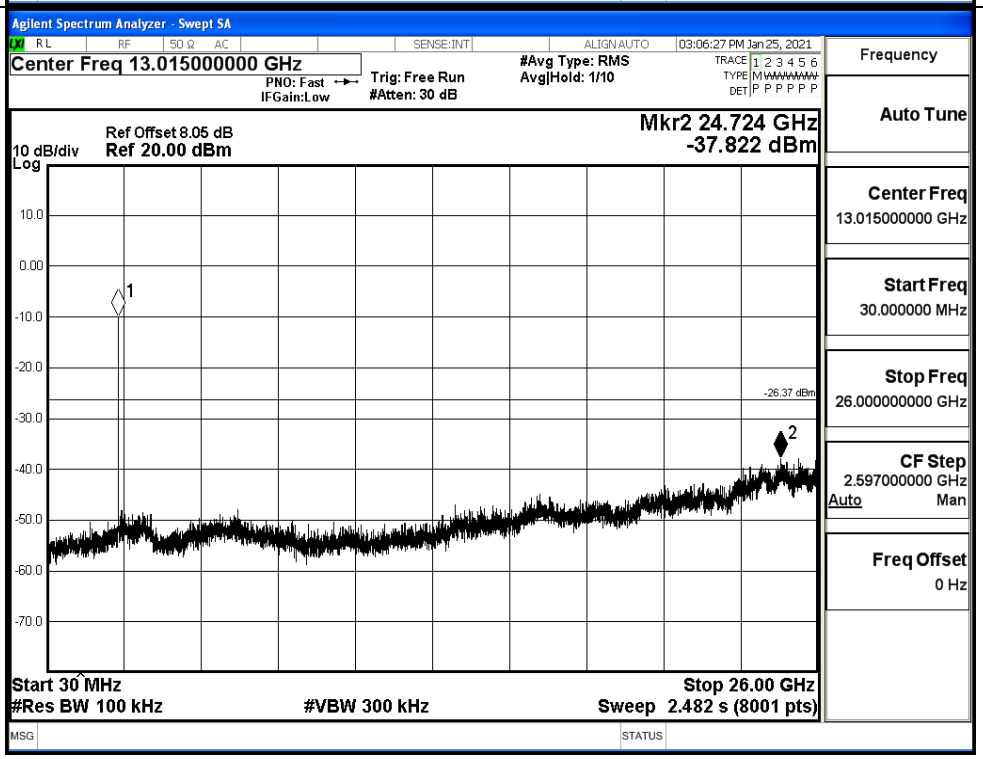
11B_HCH_Graphs		
Pref/11B/HCH		
Puw/11B/HCH		

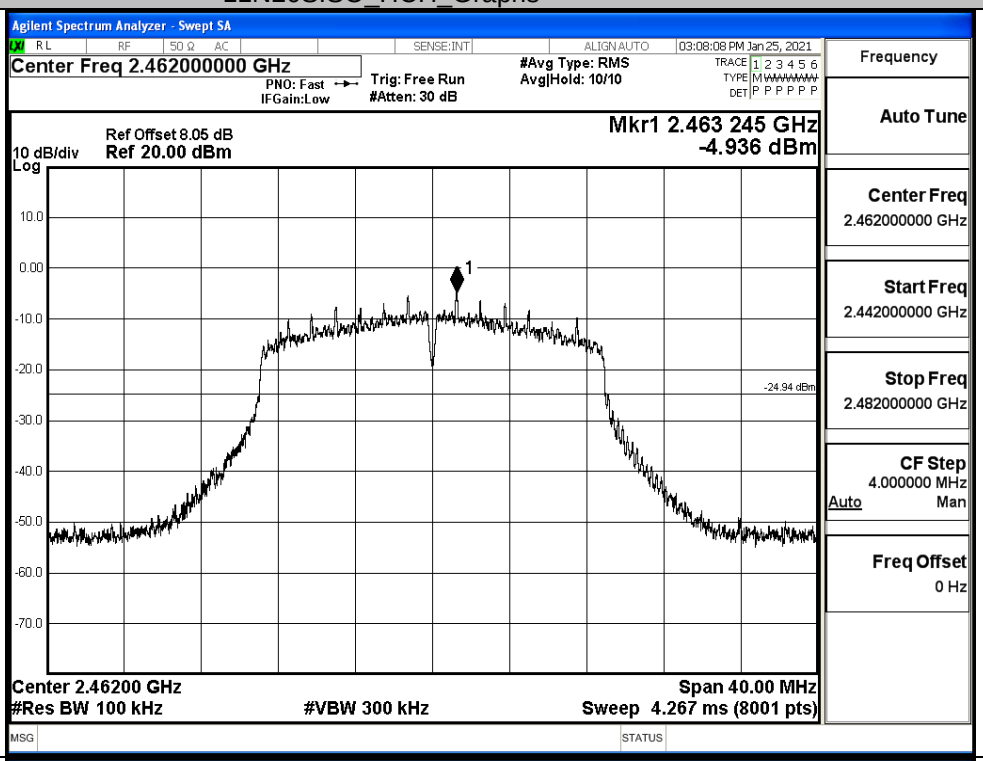
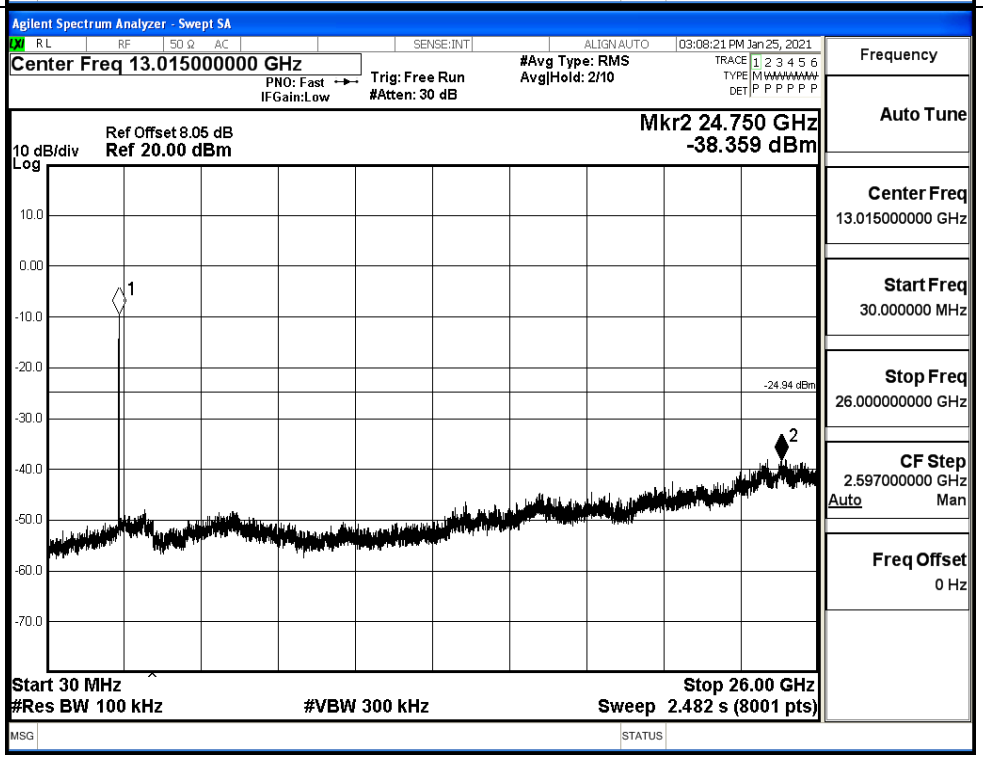
11G_LCH_Graphs		
Pref/11G/LCH		
Puw/11G/LCH		

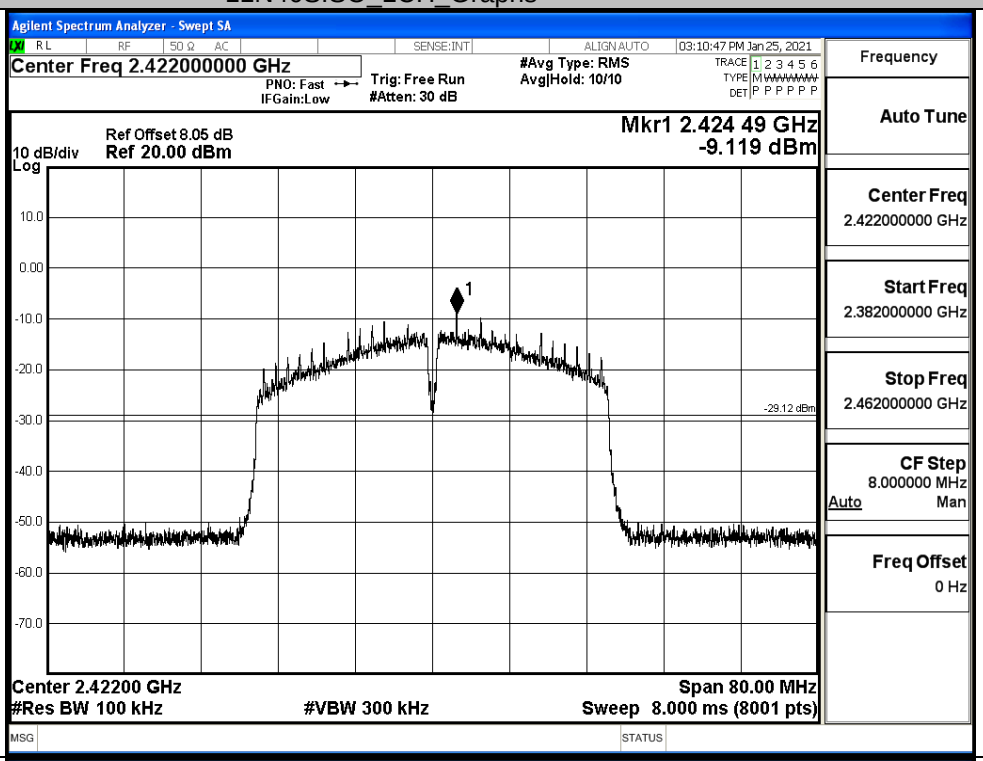
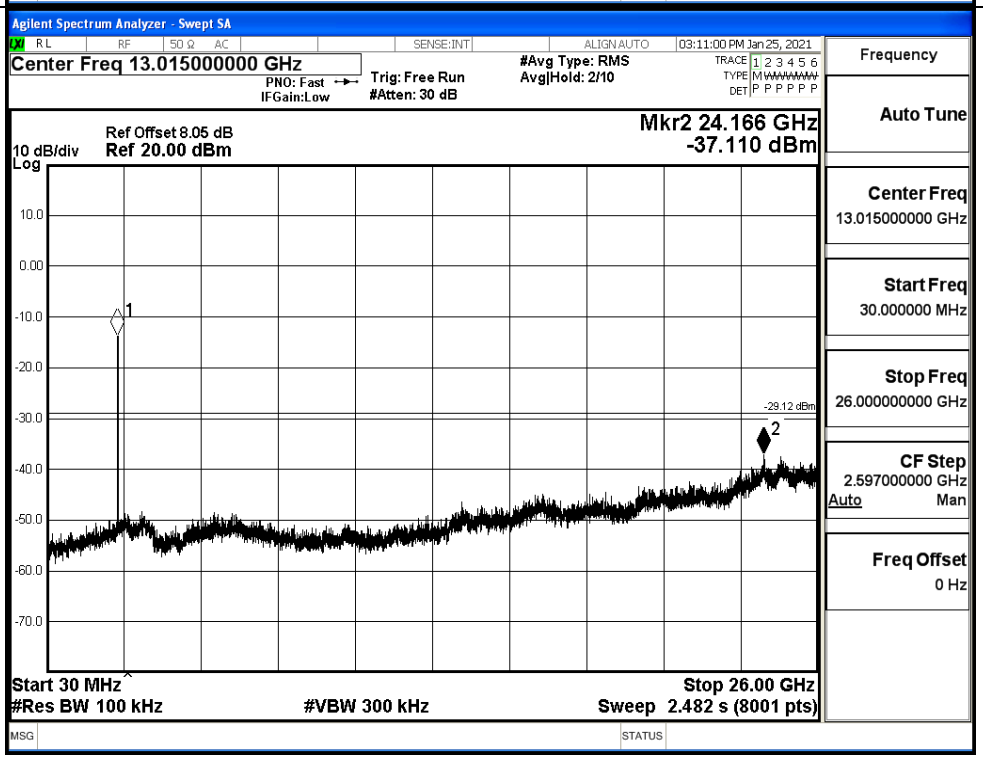
11G_MCH_Graphs		
Pref/11G/MCH		
Puw/11G/MCH		

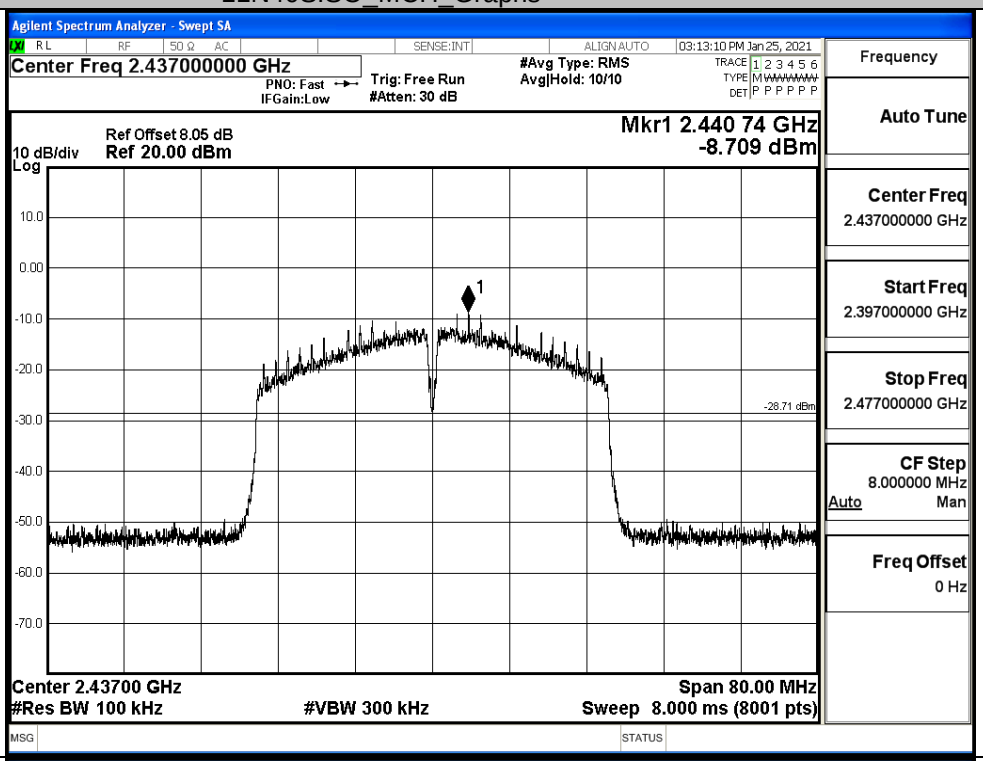
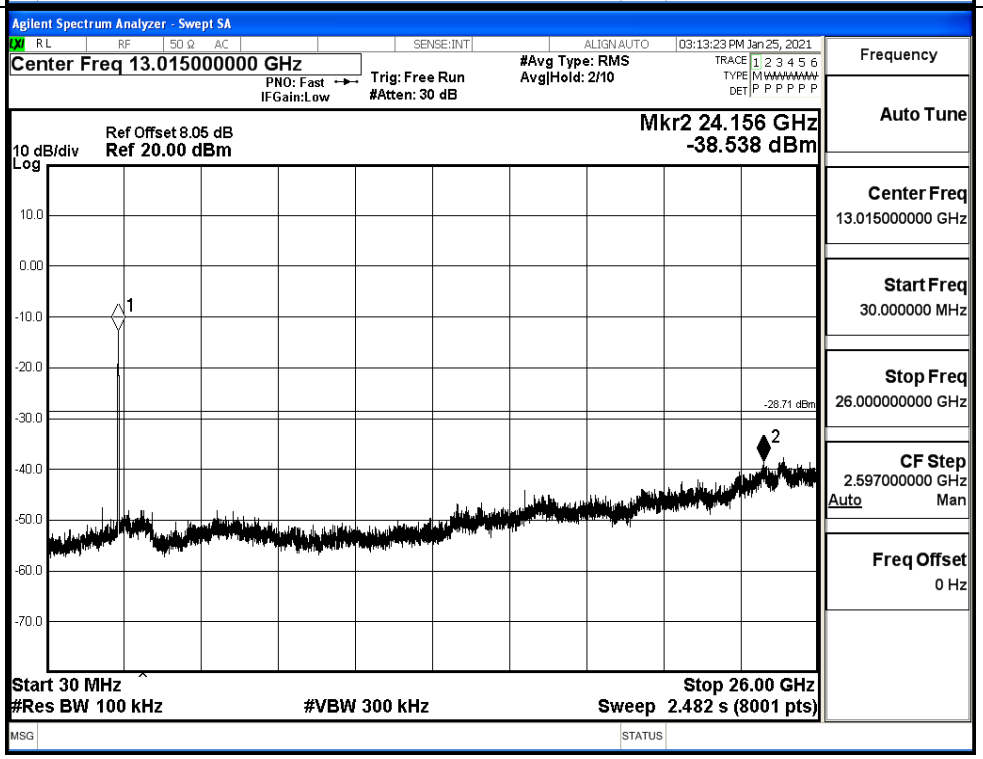
11G_HCH_Graphs	
Pref/11G/HCH	
Puw/11G/HCH	

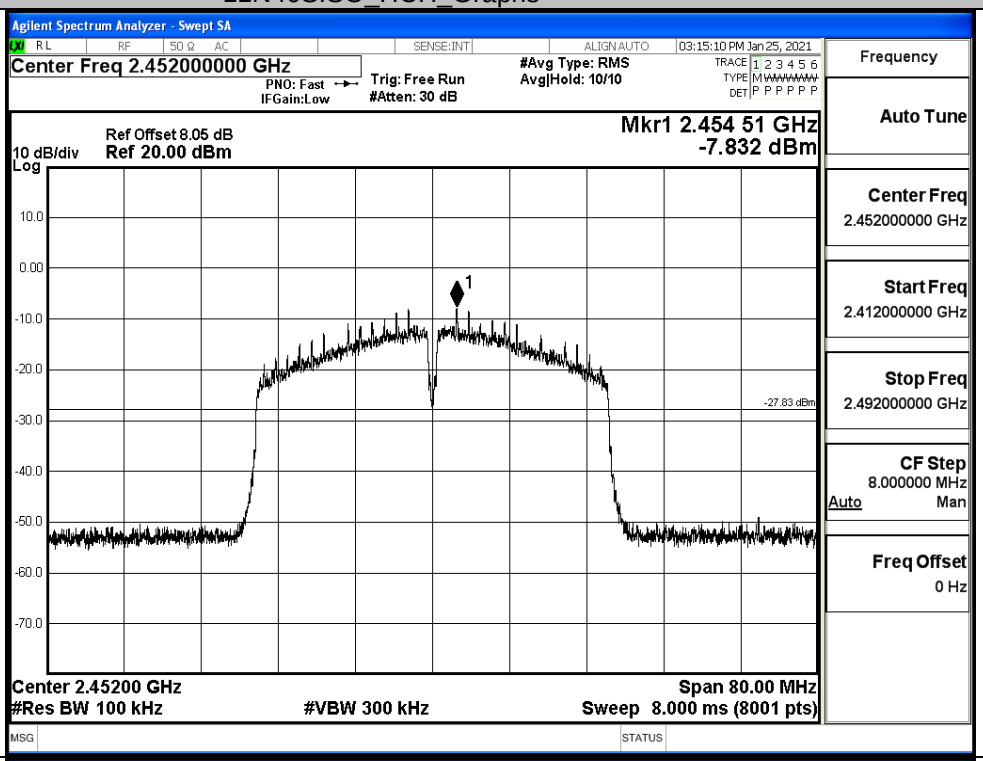
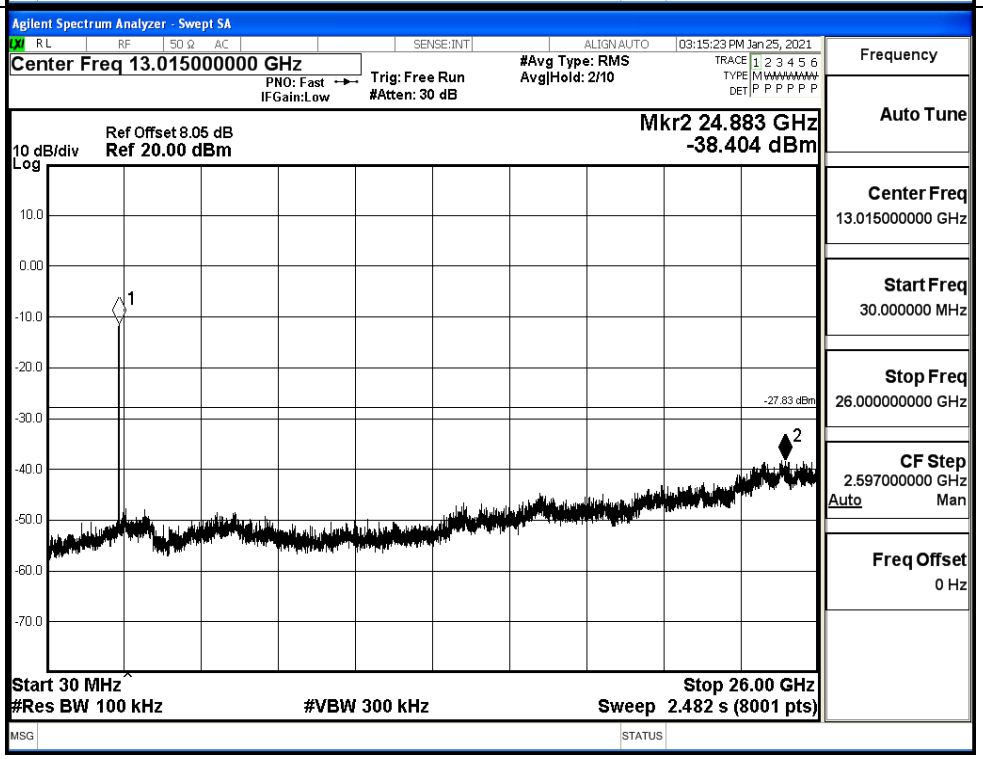
11N20SISO_LCH_Graphs		
Pref/11N20SISO/LCH		
Puw/11N20SISO/LCH		

11N20SISO_MCH_Graphs	
Pref/11N20 SISO/MCH	
Puw/11N20 SISO/MCH	

11N20SISO_HCH_Graphs	
Pref/11N20 SISO/HCH	
Puw/11N20 SISO/HCH	

11N40SISO_LCH_Graphs	
Pref/11N40 SISO/LCH	
Puw/11N40 SISO/LCH	

11N40SISO_MCH_Graphs	
Pref/11N40 SISO/MCH	
Puw/11N40 SISO/MCH	

11N40SISO_HCH_Graphs	
Pref/11N40 SISO/HCH	
Puw/11N40 SISO/HCH	

ANT1

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-2.174	-37.401	-22.174	PASS
	MCH	-0.426	-37.797	-20.426	PASS
	HCH	0.817	-38.028	-19.183	PASS
11G	LCH	-6.607	-37.855	-26.607	PASS
	MCH	-5.352	-36.890	-25.352	PASS
	HCH	-3.571	-38.249	-23.571	PASS
11N20 SISO	LCH	-6.705	-38.233	-26.705	PASS
	MCH	-5.72	-38.296	-25.720	PASS
	HCH	-4.205	-38.485	-24.205	PASS
11N40 SISO	LCH	-8.749	-37.927	-28.749	PASS
	MCH	-7.696	-38.324	-27.696	PASS
	HCH	-7.111	-38.255	-27.111	PASS